

## DISCLOSURE ABOUT WASTE MANAGEMENT IN COUNTRYSIDE PROPERTIES THROUGH PODCASTS

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**Abstract:** Technical Assistance and Countryside Extension (ATER) plays an important role in actions, programs and public policies aimed at countryside areas. Nowadays, information technologies play an important role in this process, which have been updated in recent years, especially in view of the new communication challenges generated especially by the Covid-19 pandemic. Therefore, the objective of this work is to disseminate information regarding solid waste and its correct separation and destination to countryside producers in the municipality of São Gabriel (RS) through podcasts. This article is structured in three main parts: (1) the first presents the theoretical framework that guided this study: digital technologies and the use of podcasts and solid waste; (2) Subsequently, based on the bibliographic survey, two scripts were prepared to be recorded, in the format of two podcast episodes and (3) the third consists of recording and broadcasting the programs for countryside producers in the municipality of São Gabriel (RS). The podcast is an agile, short-lived tool that communicates quickly, in easy and colloquial language, easy to understand.

**Keywords:** Technical assistance, countryside communication, Countryside extension, Extension methodologies, Waste.

## INTRODUCTION

The growing concern with the environmental theme, makes necessary actions about the correct destination of residues in the countryside environment, having in view fundamentally the importance for the environmental preservation. For Freitas et al. (2019) one of the major environmental problems is related to the production and final disposal of solid waste in countryside communities. The damage caused by incorrect disposal includes contamination of air, water, and is also harmful to plants and

animals. To make the correct destination, it is first necessary to know and separate each type of waste. In this classification, animal waste, pruning residues, sawdust, agricultural residues are characterized as organic residues, being more easily recycled in countryside areas, often being fertilizer for the soil, through the composting process, providing even the opportunity to maximize the income or reduction in fertilization costs.

On the other hand, pesticide packaging, lubricants, agricultural machinery scraps, and other materials such as metals, glass, rubber, plastics and chemical products are characterized as non-organic waste. In general, the correct destination of non-organic waste is more difficult, as it involves the need to remove it to the recycling industry and, in countryside areas, the separation and collection of such waste is hampered by the high cost of transport over long distances. This removal for recycling can be done by the company that generated the material that composes the waste, in a process called “reverse logistics”, as is the case with the systematic collection of pesticide packaging. On the other hand, in the absence of an adequate reverse logistics system, the situation becomes more problematic when the public system of solid waste collection and disposal is deficient or, as in many cases, non-existent in countryside areas. In such situations, where there is no assistance and awareness in the search for alternatives for disposal, it is common to observe the permanence of residues irregularly deposited on the property’s soil or improperly burned, resulting in contamination and degradation of the area.

Therefore, it is necessary to provide training to countryside producers so that it is possible to perceive the proper disposal for each type of waste generated. Trainings and discussions must include waste disposal procedures. In this case, organic waste has the

potential to be transformed into fertilizers, based on the implementation of a composting system. In addition, if the property has a large volume of organic waste, as in the case of large swine or cattle feedlots, the producer may seek to implement a biodigester, and thereby generate fuel to supply the property's vehicles and machinery, generate heat for cooking, heating of environments or boilers, among other possibilities of use and reuse. Another important procedure on disposal is related to inorganic waste, it is recommended that the countryside producer seeks to separate the waste by types and deposit them in a safe place, for later forwarding to the recycling industry. This forwarding is more viable when several countryside landowners, from a given region, coordinate this separation and destination, because with this they can share the freight, providing the respective cost reduction.

The lack of waste management services requires actions to disseminate knowledge about the proper disposal of solid waste. Thus, one of the informational forms is the expansion of communication channels via podcast, specialized to assist the agrarian environment, fostering technological systems with relevant and short-term information that corroborate improvements in properties and countryside daily life.

## **GOAL**

In view of the countryside producer's need for knowledge about the correct disposal of solid waste, this work aims to disseminate information regarding solid waste and its correct separation and destination to countryside producers in the municipality of São Gabriel (RS) through podcasts.

## **METHODOLOGY**

This article is structured in three main parts: (1) the first presents the theoretical framework that guided this study: digital technologies

and the use of podcasts and solid waste; (2) Subsequently, based on the bibliographic survey, a script was prepared to be recorded, in the format of two podcast episodes and (3) the third consists of recording and broadcasting the programs for countryside producers in the municipality of São Gabriel (RS).

Emater - The Technical Assistance and Countryside Extension Company of the Municipality of São Gabriel - which provides technical assistance to countryside producers in the municipality was responsible for disseminating podcast programs to producers via email and whatsapp.

The podcast is an agile, short-lived tool that communicates quickly, in easy and colloquial language, easy to understand.

## **THEORETICAL REFERENCE PODCAST**

The expansion of multimedia and audiovisual mechanisms has become more demanded in recent years, especially due to the social distancing resulting from the COVID-19 pandemic. During this period, communication underwent numerous changes worldwide, expressing the need to meet the population demand for information. This demand was addressed through the expansion of interlocution and research methods, disseminating the digital media options in which they reach diverse audiences. The podcast service gained greater public interest during the scenario of social distancing and distance from face-to-face work and academic activities, thus adapting to a new scenario of interaction (BALACÓ; FILHO, 2020). According to Kischinhevsky (2016), the podcast communication model emerged in 2004 to innovate and modernize traditional radios. In translation, the English word podcast means: "pod" in reference to the Apple-branded iPod multimedia player and "cast" in reference to the broadcast that gives

the transmission (BERRY, 2006).

Web radio and Podcast are concepts that are integrated. Today, more than ever, institutions are using these resources in virtual learning environments, favoring collective intelligence in the educational field, and producing a cyberculture in the information society (TEIXEIRA and SILVA, 2010).

In a simple definition, a podcast is a form of audio media production, as if it were a radio program, but digitally distributed, either in an MP3 audio file, or through streaming, and accessed on demand (on demand), which means that the listener chooses what, where and through which device they want to hear.

In the podcast, the goal of each episode is to contain a short and direct story about a concept and still leave clues for listening to new episodes. The short size also favors concentration, as listening to very long texts does not produce good results. Another problem associated with long files is their size; many of the free servers have little available space for storage and similarly the cheapest mp3 players do not have much available space which can make it impossible to use very long episodes.

The expansion and implementation of specialized podcast communication channels with the agrarian environment and countryside daily life makes it possible to bring together technological mechanisms for consulting and rapid information, optimizing agribusiness activities in an operative, sustainable and objective way.

## **WASTE MANAGEMENT IN COUNTRYSIDE PROPERTIES**

Solid waste can be classified as those resulting from industrial, domestic, hospital, commercial, agricultural, service and sweeping activities (ABNT, 2004). They include sludge produced in water treatment systems, those generated in pollution control

equipment and installations, as well as liquids whose particularity makes their release into the public sewage system or bodies of water unfeasible.

For responsible management, it is essential to classify waste, based on its characteristics, in accordance with its origins and degrees of danger. As for the origin, waste can be classified as household, commercial, public, industrial, hospital and health services, airports, ports, road terminals, railway terminals, agroforestry and civil construction. Solid waste is also classified according to its danger to human health and the environment. This classification is based on NBR 10.004/2004 of the Brazilian Association of Technical Norms. According to the National Solid Waste Plan, Agrosilvopastoral Residues are those produced in agriculture, livestock and forestry activities, and can be divided into: Organic - originated from biomass leftovers from crops and cattle, swine, poultry and other animals ; Inorganic - deals with packaging produced in the segments of pesticides, fertilizers and veterinary pharmaceutical inputs, including domestic solid waste (RSD) from countryside areas. Pesticides packages are considered high risk and have a field and are sent to an environmentally correct destination in Brazil. This fact is due to the effectiveness of reverse logistics that involves participants in the pesticide segment (manufacturers, resellers, farmers and public authorities). However, the same effectiveness of adequate disposal of inorganic agrosilvopastoral solid waste is not found in the fertilizer and veterinary drug segments (PNRS, 2011).

In the disposal of solid waste from products in countryside areas, assertive knowledge about waste management and its correct disposal in an appropriate and ecological way is important. According to Trindade (2020), in a survey carried out with the agenda on biodegesters, the lack of information about

their functioning and purpose took a large proportion in the research result. Most of the interviewees had already heard superficially about biodigester equipment, but most did not have the knowledge about its operation and importance of implementation.

The problem of solid waste in countryside properties is one of the biggest challenges for producers in relation to the environment, since public waste collection is still insufficient for the amount of waste generated, covering a tiny percentage of Brazilian countryside households (PEDROSO, 2010).

For Pedrozo (2010) there are mainly three concentrations of garbage in countryside properties: domestic garbage; ferrous materials and pesticide packaging.

In view of the lack of waste management services, among countryside producers, inappropriate practices arise, from an environmental point of view, such as the disposal of waste in the open, burial of waste and burning, among others.

## RESULTS

In the step prior to recording the podcasts, the scripts are presented and rehearsed with the content of the recording.

Table 1 presents the description of the two episodes of podcasts recorded and broadcast to countryside producers in the municipality of São Gabriel.

Based on the structure presented, segregated into episodes 1 and 2, the script developed on waste management in countryside properties was recorded. Finally, the podcast episodes were edited and finalized.

The podcast episodes were disseminated by whatsapp and email to countryside producers.

## CONCLUSIONS

Management initiatives, recommended disposal, environmental education and municipal waste management plans minimize

the environmental impacts of production as a result of countryside activity. In view of this, sustainable innovation initiatives are of paramount importance to assign alternative communication and information mechanisms, in order to provide the countryside community with new possibilities for consulting and technical assistance.

The expansion of multimedia and audiovisual resources, driven by the period of social distancing, made it possible to carry out the dissemination of knowledge carried out at low cost and with easy access.

Thus, the podcast programs provided the scope of training on the correct disposal of solid waste from agrarian activity. These activities are carried out through programs in audio format and provided free of charge, providing all interested parties with access to material of great importance for the countryside environment.

Through the podcast instrument, it was possible to transmit knowledge about the damage caused by the disposal and incorrect deposit of solid materials in the soil, classifications on the types and danger of each waste, collections and cleaner production. In addition, it highlights the importance of knowledge about the reduction of waste generation and also existing alternatives such as reverse logistics and composting process.

Based on this information, it is possible for countryside producers to carry out responsible waste management on their property, reducing the damage caused by incorrect disposal, which directly harm the soil and tend to trigger negative effects for the entire environment.

	Episode 1: <i>Podcast</i>	Episode 2: <i>Podcast</i>
Title	Waste management on countryside properties - Part I	Waste management on countryside properties - Part II
Goal	Survey of environmental issues	Propositions of environmentally correct actions
Elements of the script of the <i>podcast</i>	It starts with a vignette (musical/oral presentation of the program), has speakers, refers to the interlocutor as a listener.	It starts with a vignette (musical/oral presentation of the program), has speakers, refers to the interlocutor as a listener.
Estimated time	5 minutes	5 minutes
Content - checklist for the episode	<ol style="list-style-type: none"> <li>1. Start vignette;</li> <li>2. Presentation of the speakers;</li> <li>3. Speak publication date and topic of the podcast of the day;</li> <li>4. Quick introduction to hook the audience to the subject;</li> <li>5. Transient vignette to let you know that it is about to start;</li> <li>6. Talk about checklist topics; <ul style="list-style-type: none"> <li>- What are solid waste;</li> <li>- Classification as to the origin of solid waste;</li> <li>- Classification of solid waste as to its hazardousness;</li> <li>- Types of solid waste;</li> <li>- Difference between solid waste and garbage;</li> <li>- Risks and impacts of incorrect disposal;</li> <li>- How to reduce waste generation;</li> <li>- What is reverse logistics;</li> <li>- National Solid Waste Policy;</li> <li>- Solid Waste Management Plan;</li> <li>- Importance of the PGRS in the countryside enterprise.</li> </ul> </li> <li>7. Prepare for closure;</li> <li>8. Transient quick vignette to let you know it's about to end;</li> </ol> <p>Closing - thanks to the listeners. Creating anticipation about the next episode.</p>	<ol style="list-style-type: none"> <li>1. Start vignette;</li> <li>2. Presentation of the speakers;</li> <li>3. Speak publication date and topic of the podcast of the day;</li> <li>4. Quick introduction to hook the audience to the subject;</li> <li>5. Transient vignette to let you know that it is about to start;</li> <li>6. Talk about checklist topics; <ul style="list-style-type: none"> <li>- Cleaner production;</li> <li>- Environmental seal of rice farming;</li> <li>- Separation of waste;</li> <li>- Collection of edible oil;</li> <li>- Collection of batteries and electronics;</li> <li>- Collection of expired medicines;</li> <li>- Collection of ferrous materials;</li> </ul> </li> <li>7. Prepare for closure;</li> <li>8. Transient quick vignette to let you know it's about to end;</li> <li>9. Closing.</li> </ol>
Language	Colloquial, clear and succinct	Colloquial, clear and succinct
Type of program (program, interview, presentation, news, story reading, radio soap opera, questions, debates, etc.).	Questions directed to the specialist. Focus on the intonation of sentences in order to make speech as expressive as possible.	Program (similar to a radio program) Speak slowly, articulating words and phrases well.
Disclosure of episodes to countryside producers	Send, through the Emater WhatsApp group, the link of the <i>podcast</i> .	Send, through the Emater WhatsApp group, the link of the <i>podcast</i> .

Table 1. Structure of Episodes 1 and 2 of the Podcasts on Waste Management in Countryside Properties.

Source: Authors, 2022.

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