impact

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The magic inside a kernel builds agricultural literacy and promotes healthy eating

AT A GLANCE

The Magic Inside a Kernel program helps youth reconnect with the food they eat by using popcorn as a familiar, engaging example to build agricultural literacy and promote healthy eating habits.

The Situation

Research shows that snacks account for over 27% of children's daily energy intake, reflecting a significant rise in snacking habits over the past few decades. Unfortunately, most of these snacks are energy-dense, nutrient-poor, salty and sugary foods or beverages. In addition, there is an increasing disconnect between the food children consume and their understanding of how and where it is grown. As fewer children grow up on farms or have exposure to agriculture, many remain unaware of where their foods come from.

Popcorn represents an ideal, nutritious, whole-grain solution to this dual challenge. By combining the science of why popcorn pops with an interactive tasting game, we create an engaging intervention that reconnects children to food systems while empowering them to make healthier snacking choices.

Our Response

The family and consumer sciences Extension educator and 4-H Extension educator in Twin Falls County partnered to develop and deliver The Magic Inside a Kernel program to local elementary students. The program is designed to use popcorn as a familiar, engaging example to build agricultural literacy and promote healthy eating habits among youth. Through this interactive experience, students discovered where popcorn comes from, how it is grown and learned the science behind what makes it pop. Youth also experienced different ways to make popcorn, including using a microwave, an air popper or the stovetop. Students then observed the popping process firsthand using an air popper. They were offered to sample the popcorn entirely plain with no added butter, salt or sugar, demonstrating how delicious a healthy snack can be.



Second-grade students watched the kernels transform into popcorn.

Program Outcomes

The program was well received by the students, who were fascinated by the magical transformation of popcorn kernels into popcorn. The program reached

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136 students from kindergarten through second grade across two elementary schools.

The results were remarkable:

- 100% participation: Every student was willing to try the plain, air-popped popcorn.
- High approval: 99% of students reported that they liked the taste of plain popcorn.
- Behavioral intent: 99% reported they would choose to eat plain popcorn again.

The positive responses demonstrated that plain, air-popped popcorn is a highly acceptable healthy snack option for children, with nearly all participants reporting that they enjoyed it and would choose to eat it again in the future. Students also gained a better understanding that popcorn is the kernel or seed of the plant that they eat and learned what causes popcorn to pop.



Kindergarten students engaged with the 4-H Extension educator during The Magic Inside the Kernels program.

The Future

Following the overwhelmingly positive feedback, the program was replicated during the community summer program. Participants were offered both plain air-popped and flavored popcorn seasoned with Parmesan cheese and dried herbs. Most of the students preferred the plain, unflavored popcorn, reinforcing that popcorn can serve as a healthy snack while also providing an engaging opportunity to promote agricultural literacy.

The team plans to expand the program by incorporating hands-on popcorn production activities. Students will have the opportunity to grow the plant, allowing them to participate in seed germination, observe the plant life cycle and learn proper plant care techniques. These experiences will strengthen students' understanding of where food comes from while encouraging healthy eating habits through experiential learning.

FOR MORE INFORMATION

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