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May 13, 2022

**Dry-aged beef current focus of new animal science faculty member**

By John Lovett

U of A System Division of Agriculture

## Fast facts

* Third meat science researcher joins Arkansas Agricultural Experiment Station
* Dry-aged beef research could add value to beef industry, consumer confidence

(554 words)

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FAYETTEVILLE, Ark. — Derico Setyabrata, assistant professor of meat science and muscle biology, joined the University of Arkansas System Division of Agriculture on a mission to help add value for beef producers and improve quality for consumers.

Setyabrata started with the research arm of the Division of Agriculture, the Arkansas Agricultural Experiment Station, in April. His research focuses on identifying flavor compound influences in dry-aged beef that can make lower-value cuts more palatable to consumers.

“There is no standard on dry aging beef yet, which is good and bad,” Setyabrata said. “It’s good because everyone can do it and it can be considered as an artisanal product, which increases the value even more. The bad thing is we don’t know what the conditions, or the parameters, are to make a good product.”

Setyabrata said dry aging is seen by consumers as a more natural method of tenderizing beef than mechanical manipulation or brine injection. However, the lack of consistency in the marketplace with dry-aging can lead to more unfavorable experiences for consumers who have certain expectations of a higher quality product with dry-aged beef, he added.

As part of his dry-aged beef research, which is a continuation of his work as a Ph.D. student at Purdue University, Setyabrata wants to figure out exactly what causes the differences in quality between various dry-aging methods on the molecular level. He looks at the interactions between amino acids and sugars responsible for the savory, more beefy flavors of dry-aged meat.

For his experiments, he has been using cattle culled because of old age, which are usually tougher and not able to be used for premium cuts. An established protocol for dry-aging the meat could allow the beef industry to create a more premium product from a lower-valued cow, he said.

“The idea of my study is to figure out the flavor compounds, see what is responsible for the dry-aged flavor, and then see what processing conditions created those flavor compounds,” Setyabrata said. “Then we can see what influenced them to develop parameters of creating a good dry-aged beef product.”

Methods in dry-aging differ between producers, varying on environment humidity, application of other devices (UV-light, salt blocks, dry-aging bags) and aging time, Setyabrata said. Some allow the beef to dry-age for about 25 days while others age over 90 days. Cooking methods of dry-aged beef also vary widely.

Setyabrata, originally from Jakarta, Indonesia, joins Kelly Vierck and Janeal Yancey in meat science research for the experiment station. Vierck and Setyabrata also worked together on U.S. Department of Agriculture supported research when he was a Ph.D. student at Purdue University and she was a Ph.D. student at Texas Tech University.

Setyabrata earned his bachelor’s degree in food science from Purdue in 2016 and completed his doctorate in meat science at Purdue in 2021.

“We are excited for Dr. Setyabrata to join animal science,” said Michael Looper, animal science department head for the Division of Agriculture and the Dale Bumpers College of Agricultural, Food and Life Sciences. “His expertise in dry-aging methods as a natural value-adding process that improves meat quality and palatability is an excellent addition to our meats research focus.”

Looper said Setyabrata’s instruction of meat science-related courses will also introduce students to various employment opportunities in the meats industry and strengthen the Division of Agriculture’s relationship with allied industry partners.

To learn more about Division of Agriculture research, visit the Arkansas Agricultural Experiment Station website: [https://aaes.uada.edu/](https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Faaes.uada.edu%2F&data=04%7C01%7Cfmiller%40uark.edu%7C5cd2aea2b12c4dfceb9c08d942da0e9d%7C79c742c4e61c4fa5be89a3cb566a80d1%7C0%7C0%7C637614326581623988%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=aepGh27NgEgSYv9mb8nggzA%2BaUdOhXMw7e6sspVov8c%3D&reserved=0). Follow us on Twitter at [@ArkAgResearch](https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Ftwitter.com%2FArkAgResearch&data=04%7C01%7Cfmiller%40uark.edu%7C5cd2aea2b12c4dfceb9c08d942da0e9d%7C79c742c4e61c4fa5be89a3cb566a80d1%7C0%7C0%7C637614326581633943%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=nH1djoLMIYNT7ERwtQMektp5RVjEjY1B93nJK%2BhyjJE%3D&reserved=0).

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## About the Division of Agriculture

The University of Arkansas System Division of Agriculture’s mission is to strengthen agriculture, communities, and families by connecting trusted research to the adoption of best practices. Through the Agricultural Experiment Station and the Cooperative Extension Service, the Division of Agriculture conducts research and extension work within the nation’s historic land grant education system.

The Division of Agriculture is one of 20 entities within the University of Arkansas System. It has offices in all 75 counties in Arkansas and faculty on five system campuses.

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