








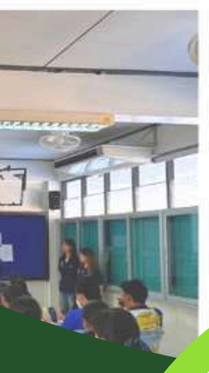


SDG

Report

ACADEMIC SERVICE PROJECT FOR COMMUNITIES FISCAL YEAR 2025

Academic Service Unit

(Office of Social Mission)

Faculty of
Agricultural Product
Innovation and Technology
SRINAKHARINWIROT UNIVERSITY

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Project Overview Summary

The Social Mission Unit of the Faculty of Agricultural Product Innovation and Technology has implemented a total of 3 academic service projects for the fiscal year 2025. These projects are: **1. The Academic Service Project to Enhance the Economic Value of Communities for Sustainable Development (SDGs)**, with the objective of promoting and developing target communities to generate income by upgrading the quality of community products to a commercial standard and potential, building strong communities in terms of economy, society, and environment, and integrating a new teaching model that emphasizes practical experience for students in community areas, promoting public consciousness and inspiration to help improve the quality of life in the community. **2. The Vocational Training Project**, with the objective of providing knowledge and vocational skills to interested individuals so they can apply them to their careers and generate sustainable income, and to build a network of cooperation between trainees and relevant sectors for the exchange of knowledge and future business opportunities. **3. The Mobile Academic Service Project**, with the objective of building a network of cooperation with government agencies, private companies, entrepreneurs, and communities in Nakhon Nayok province and nearby areas, and to collect the needs of the collaborating agencies. **The implementation period is set from December 16, 2024, to July 31, 2025, for a total duration of 6 months and 16 days.**

Based on the outcomes of the Academic Service Project to Enhance the Economic Value of Communities for Sustainable Development (SDGs), conducted from January 2 to July 31, 2025, the five activities within the program, in alignment with SDGs (1, 2, 3, 4, 12, 13), yielded the following outputs:

- **Food Innovation and Business Program** Outputs: 9 processed food products from Wolffia globosa (kai-pam) and 1 service innovation.
- **Food Science and Nutrition Program** Outputs: Students who took courses integrated with the community developed a social consciousness and an awareness of working for society. Additionally, the lecturers promoted the faculty's curriculum and collaborated with external organizations outside the Faculty of Agricultural Product Technology and Innovation

Project Overview Summary

- **Polymer Materials Technology Program** Outputs: Service integrated into the program's courses and the community, And A social mission cooperation network was established with external organizations outside the university.
- **Biotechnology and Agricultural Products Program** Outputs: Instructional media for plant tissue culture labs, Instructional video clips And The creation of new careers and increased household income.
- **Master's Program (Food Innovation and Entrepreneurship)** Outputs: Two prototype products And One Business Model Canvas

Based on the project's implementation, the Social Return on Investment (SROI) was calculated for two activities: For the Food Innovation and Business Program activity, the social return rate was 6.80 Baht, For the Polymer Materials Technology Program activity, the social return rate was 0.79 Baht, Furthermore, a collaborative network was established with both internal and external partners, Internal Network: Social Mission Division And Ongkharak Model, Srinakharinwirot University. External Network: Five community enterprise groups, Benjamaracharangsarit School, Learning Network for the Region Center, Chulalongkorn University, Saraburi Province, Bank for Agriculture and Agricultural Cooperatives (BAAC), Nakhon Nayok Province, Synnova Co., Ltd. (a food processing factory)

Based on the outcomes of the **Vocational Training Project**, implemented from March 22 to May 31, 2025, there were two activities in alignment with SDGs (4, 8), as follows:

- **Activity 1: Food Recipe Experimentation and Clip Creation** Outputs: A total of 7 cooking videos for the following menus: Mango Sticky Rice, Fresh Pasta, Carbonara with Wolffia globosa (kai-pam) Sauce, Soft-Top Chocolate Cake, Orange Cake, Caramel Custard, Mango Juice Caviar

Project Overview Summary

- **Activity 2: Vocational Training** Outputs: 49 participants (May 24-25, 2025), which is 81.6% of the target. Training menus included: Mango Sticky Rice, Coconut Milk Ice Cream, Fresh Pasta, and Carbonara with Wolffia globosa (kai-pam) Sauce.

Based on the outcomes of the **Mobile Academic Service Project**, implemented from December 16, 2024, to July 31, 2025, the following were the targets regarding network collaboration, receiving projects for teaching, research, or income-generating academic services, and publicizing knowledge or participating in agency activities:

A total of 8 new collaboration networks were established, including:

- Mueang District Agricultural Office, Nakhon Nayok Province
- Pak Phli District Agricultural Office, Nakhon Nayok Province
- Ongkharak District Agricultural Office, Nakhon Nayok Province
- Ban Na District Agricultural Office, Nakhon Nayok Province
- Nakhon Nayok Provincial Agricultural Office
- Nakhon Nayok Provincial Community Development Office
- BAAC (Bank for Agriculture and Agricultural Cooperatives), Nakhon Nayok Province
- Synnova Co., Ltd.

Received 1 project for the development of teaching, research, or income-generating academic services: A research project titled: "A Study of the Potential to Develop Healthy Food Products from Wolffia globosa, a Future Food Ingredient, Throughout the Value Chain."

Promoted knowledge or participated in an activity of 1 organization It's: **Synnova Co., Ltd.**

1

Academic Service Project to Enhance Economic Value for Communities towards Sustainable Development (SDGs)

Academic Service Project to Enhance Economic Value for Communities towards Sustainable Development (SDGs)

January 2 - July 31, 2025

The 5 activities were carried out by the following academic disciplines

1.1. Food Innovation & Business

1.2. Food Science and Nutrition

1.3. Bachelor of Science Program in Polymer Materials Technology

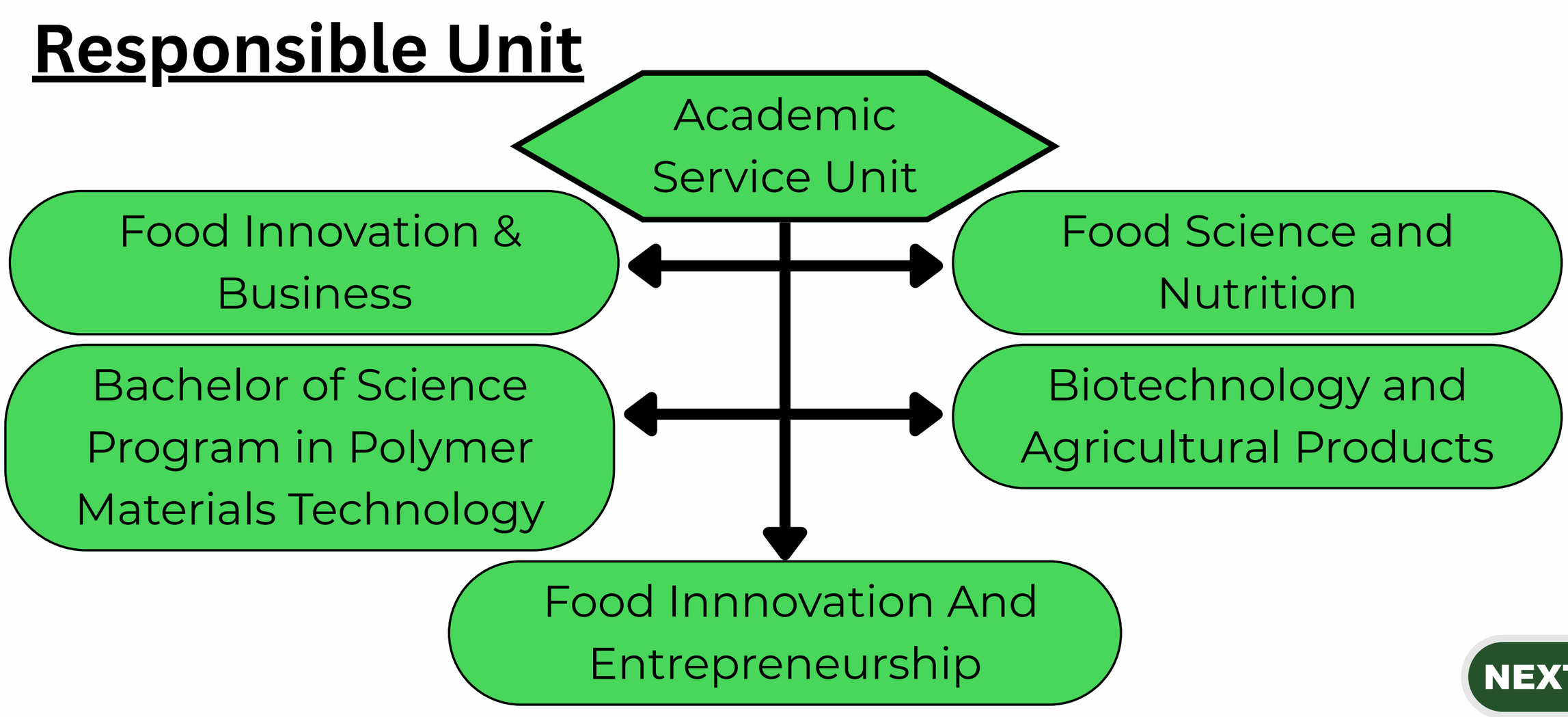
1.4. Biotechnology and Agricultural Products

1.5. Food Innnovation And Entrepreneurship.

Project Objectives

1. To promote the development of target communities and generate income by raising the quality of their products and enhancing their commercial potential, thereby creating strong communities in economic, social, and environmental terms
2. To integrate and develop a new teaching and learning model that emphasizes hands-on practice for students in communities, fostering public consciousness and inspiring them to help improve the quality of life in these communities.

Responsible Unit



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Principles and reasons

The 20-Year National Strategy (2017–2036) is based on a conceptual framework that focuses on enhancing competitiveness by developing the production and service sectors to be more competitive and sustainable. It aims to improve people's quality of life and income by developing and promoting knowledge and skills for occupations, fostering a peaceful society. It is evident that promoting learning processes and public participation, along with supporting and developing the grassroots economy to be stable and secure, as well as strengthening the capabilities and resilience of communities, will lead to sustainable development.

Faculty of Agricuitural Product Innovation and Technology, Srinakharinwirot University A center for agricultural product innovation and development has been established to serve as a community hub for adding value to agricultural produce, particularly in the form of consumer products and consuming as a learning resource to develop the competencies of personnel in agricultural product development, as well as providing technology and consulting services to develop the competencies of labor in the processing of agricultural products, community enterprises, and industry, including schools and temples, to strengthen Thai communities and entrepreneurs. Currently, based on the concept of the National Strategy, Thailand is facing a challenging situation in development to continuously enhance the country's economic capability, such as the volatility of the national and global economies, the skills of the workforce, the population structure entering an aging society, and rapidly developing technology. This has led various sectors to adapt to consumer demands, causing Thailand to face greater challenges in enhancing its national competitiveness. Future development must focus on research, innovation development, and the application of new technology to production and service sectors to increase productivity and create added value. Currently, Thailand needs to change its model of economic and social development by relying on the country's existing strengths, which include biodiversity and cultural diversity, to promote and develop Thailand into an owner of high-value goods and services that elevate the value in the production and service chains. Bringing new digital innovation technology that helps overcome many limitations to create a leap in development and build sustainable economic growth, distributing income, opportunities,

and wealth inclusively (Inclusive Growth). This is achieved by using a new economic model called the 'BCG Model, which develops three economies simultaneously: the Bioeconomy, Circular Economy, and Green Economy. This is to drive Thailand forward in a tangible way. The BCG Model is consistent with the Sustainable Development Goals (SDGs) and aligns with the principles of the Sufficiency Economy Philosophy (SEP), which is a key principle in Thailand's economic and social development.

However, developing a country's competitiveness must stem from the strength of its local economy, which serves as a foundation for self-reliance and national competitiveness. The national strategy on enhancing Thailand's competitiveness aims to "create new value in the future" by increasing the potential of entrepreneurs, developing a new generation, and adjusting business models to meet market demands. This will enable the country to expand trade opportunities, raise income levels, and improve well-being, as well as increase the middle class. Therefore, the national strategy for competitiveness sets development guidelines that prioritize the development of economic driving mechanisms for the future that can create added value, especially in the agricultural, industrial, and service sectors, and tourism. If agricultural production and processed agricultural products can be elevated to create higher value, with local agri-tourism and services, they can be part of the driving mechanism.

Faculty of Agricuitural Product Innovation and Technology at Srinakharinwirot University is located in Nakhon Nayok Province. One of the faculty's missions is to provide academic services, especially area-based academic services, in line with Srinakharinwirot University's policy as an Area-based University. Therefore, to ensure that these academic services are tangible, effective, and efficient, it is necessary to integrate work with various agencies in Nakhon Nayok Province, including community enterprises, schools, and temples. In this regard, the academic service unit has set a goal for students in the faculty to engage with the community. This aims to foster a sense of public service in students, which is part of the seven soft skills and the desired attributes of a graduate in the 21st century. This is achieved by integrating real-world challenges from the community into the coursework of each academic program.

Target group

1. Community Enterprise for Agricultural Innovation of Nakhon Nayok Province, Khao Phra Subdistrict, Mueang Nakhon Nayok District, Nakhon Nayok Province
2. Ban Chumphon Community-Based Tourism Enterprise, Chumphon Subdistrict, Ongkharak District
3. Rak Bang Somboon Processing Group, Bang Somboon Subdistrict, Ongkharak District

Integration

1. FIB321 Food and Service Innovation Creation I
2. FIB322 Consumer Science and Evaluation
3. FIB323 Food and Service Innovation Creation II
4. FIB351 Food and Service Innovation Creation Laboratory I

Implementing activities

Food Innovation & Business has provided facilities and technology to help farmers from various communities develop products from local raw materials. This helps generate income and strengthen communities, while also reducing waste. The knowledge and processes for developing products and services are then transferred back to the communities.

Sharing information about the program's activities on TikTok and Instagram, which integrate academic services with classroom instruction for communities, and involve student participation. This includes images of community visits to survey needs, problems, and readiness, as well as product development and knowledge transfer back to the community.

These integrated activities, which combine academic services and classroom instruction for communities, involved student participation in the courses FIB 323 and FIB 353 Food and Service Innovation Creation. The students received project briefs based on the needs of the community and used them to develop products that meet consumer demand. This process also served as a way to generate income for the community. Through these activities,

Implementing activities

students developed a variety of skills, including:

- **Creative thinking skills**, which come from inventing and problem-solving in the development of products or services.
- **Entrepreneurial skills**, with students conducting market testing and developing sales strategies.
- **Communication skills**, with students presenting their product development results and acting as instructors for community training sessions.
- **Teamwork skills,** Students worked together on a community-based project, systematically dividing tasks and responsibilities, on running the prototype business, students practiced solving problems and managing tasks to ensure the business could operate smoothly.

Activity Outputs

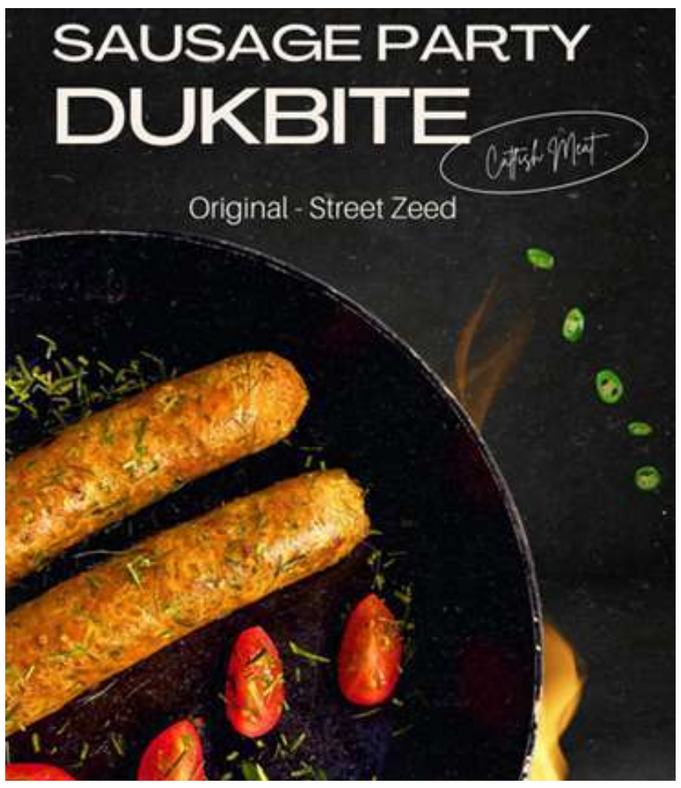
Product Innovations from Local Community Ingredients (9 products)

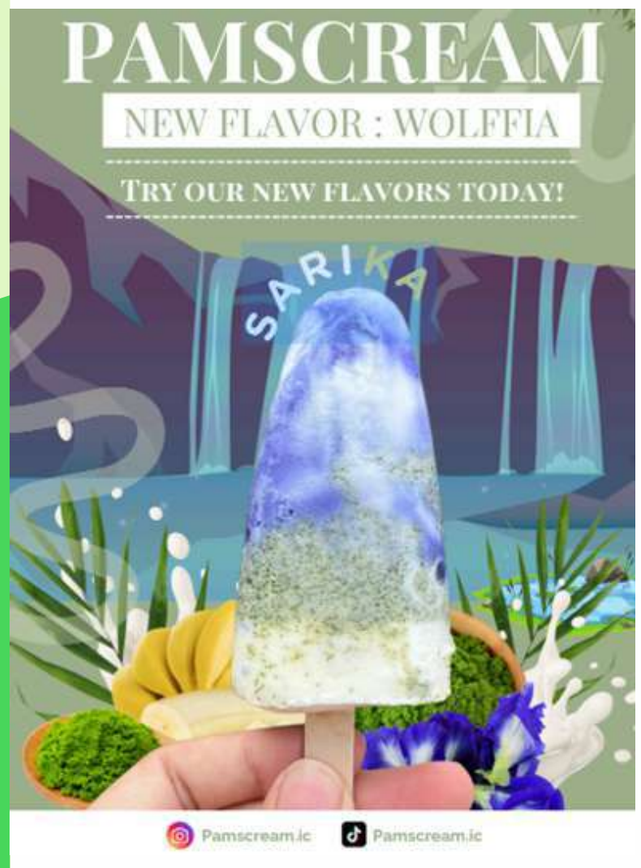
1. Wolffia globosa and Carrot Wrap
2. Wolffia globosa Ice Cream
3. Wolffia globosa Pesto Sauce
4. Catfish Cookies
5. Catfish Northern Thai Sausage (Dook Bites)
6. Catfish Wrap (Dook Wrap)
7. Welcome Drink: Rose Apple Syrup
8. Herbal Salted Egg
9. Roti Crunch

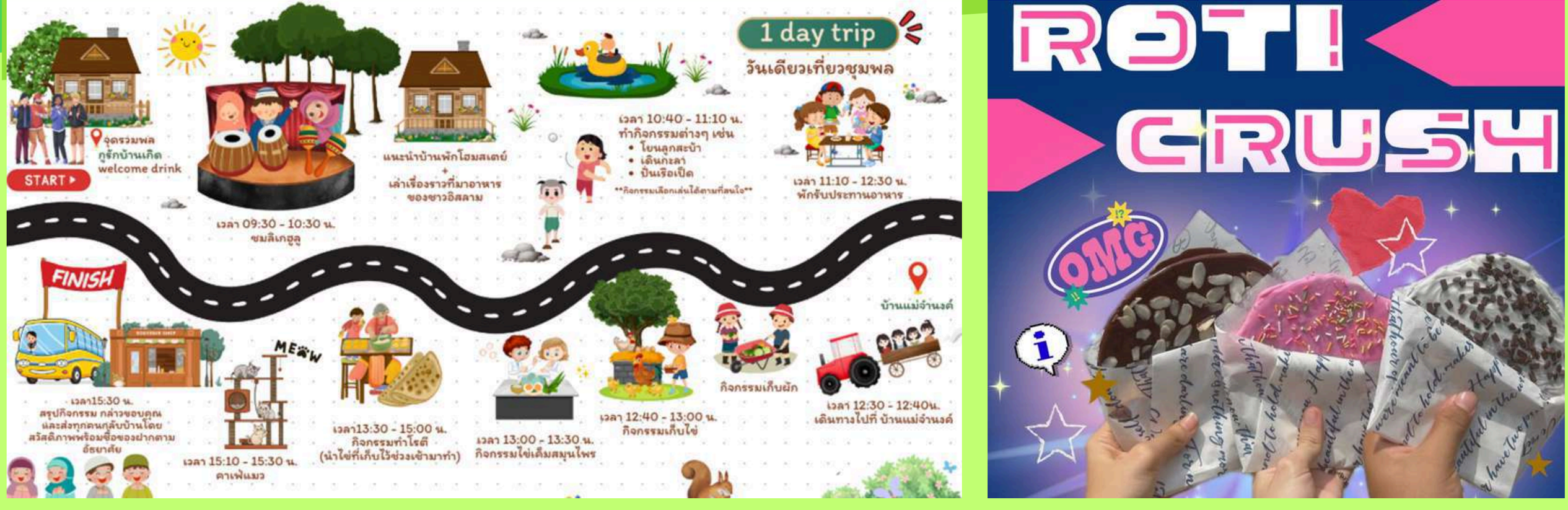
Service Innovations from Local Communities

1. Community-based tourism service model

1.1. Food Innovation & Business







SDG alignment in activities

SDG 2 2.4.1 Proportion of agricultural area under productive and sustainable agriculture

Promoting access for small-scale farmers, to technology and the infrastructure necessary for sustainable agriculture.

SDG 4 4.4.1 Measures the Proportion of youth and adults with information and communications technology (ICT) skills by type of skill

Organizing activities that integrate with coursework, based on the needs of the community. Raw materials are developed into products that meet consumer demand while also addressing the community's needs. Students who participate in these activities will develop the following skills:

1. Creative thinking, from inventing and problem-solving in the development of products or services.
2. Entrepreneurial skills, Students conducted market testing and developed sales strategies.
3. Communication skills, Students presented their product development results and served as trainers for community workshops.
4. Teamwork skills, Students worked on a community-based project, collaborating in a team and systematically dividing responsibilities.
5. Management and problem-solving skills. Students developed management and problem-solving skills by operating a prototype business for product sales. This involved practicing problem-solving and task management to run the business effectively.

Target group

1. Students from Secondary 6 at Benjamaracharangsarit School, Chachoengsao Province
2. Senior citizens at the Ongkharak Model School for the Elderly, Ongkharak District, Nakhon Nayok Province

FSNSWU
Food Science and Nutrition

Integration

1. FSN361 Principles of Nutrition in Health and Diseases.
2. FSN362 Principles of Nutrition in Health and Diseases Laboratory.

Implementing activities

This is a lecture that provides knowledge on fundamental nutrition for teenagers, focusing on chronic non-communicable diseases that result from poor dietary habits. It also covers understanding nutrition labels. The session will feature two hands-on activities: a game to find information on nutrition labels and a food portioning activity tailored to an individual's energy, nutrient, and specific health conditions.

Activity Outputs

Summary of Sub-Activity 1

Academic service activity for 12th-grade students at Benchamaracharungsarit School in Chachoengsao Province.

On February 4, 2025, at Benjamarachrangsarit School in Chachoengsao Province, lecturers and students from the Department of Food Science and Nutrition met with Ms. Eua-aree Mo-khun, the guidance counselor and coordinator. They were there to conduct an academic service activity with 80 students from Mathayom 6 (Grade 12) in the Science-Mathematics program (40 students per class, two classes). A lecture by lecturers from the Department of Food Science and Nutrition on various topics, including nutrition for adolescents, the risks of unhealthy eating leading to non-communicable diseases (such as obesity, diabetes, and hypertension), and the new nutrition label format implemented under the Ministry of Public Health Announcements No. 445-448, which took effect on July 2, 2024. And a game activity led by third-year students from the department.

Activity Outputs

The students were tasked with finding specific information on mock nutrition labels (e.g., the food product with the highest sodium content and the food product with the lowest sugar content).

Summary of Sub-Activity 2

The first academic service activity for the elderly at Ongkharak Model Elderly School, Ongkharak District, Nakhon Nayok Province.

On February 25, 2025, at the Ongkharak Model Elderly School in Nakhon Nayok Province, lecturers and students from the Department of Food Science and Nutrition met with the elderly participants. The activity was divided into two parts: A lecture by lecturers from the Department of Food Science and Nutrition, who provided knowledge on nutrition for the elderly, the risks of unhealthy eating leading to non-communicable diseases (such as obesity, diabetes, and hypertension), and the new nutrition label format implemented under the Ministry of Public Health Announcements No. 445-448, which took effect on July 2, 2024. And a game activity led by third-year students from the department. The participants were tasked with finding specific information on mock nutrition labels (e.g., the food product with the highest sodium content and the food product with the lowest sugar content).

Summary of Sub-Activity 3

The second academic service activity for the elderly at Ongkharak Model Elderly School, Ongkharak District, Nakhon Nayok Province.

On March 25, 2025, at the Ongkharak Model Elderly School in Nakhon Nayok Province, lecturers and students from the Department of Food Science and Nutrition met with the elderly participants. The activity consisted of two parts: A lecture by lecturers from the Department of Food Science and Nutrition. They reviewed knowledge on nutrition for the elderly, the risks of unhealthy eating leading to non-communicable diseases (such as obesity, diabetes, and hypertension), and the new nutrition label format under the Ministry of Public Health Announcements No. 445-448, which took effect on July 2, 2024. They also provided additional knowledge on preparing meals suitable for certain non-communicable diseases (such as diabetes and hypertension),

Activity Outputs

Summary of Sub-Activity 3

The second academic service activity for the elderly at Ongkharak Model Elderly School, Ongkharak District, Nakhon Nayok Province.and how to estimate nutrients and energy in dishes without a nutrition label. The elderly were given a chance to serve themselves rice, fried/boiled chicken, fresh vegetables, and dipping sauces to practice estimating the appropriate energy and nutrients for their age and health. And An interactive session led by third-year students. Throughout the activity, students used food models of rice, chicken, and vegetables to guide the elderly while they served their food. They provided advice and answered questions periodically. Other food models were also displayed, including common single-dish meals from the market, standard portions of rice/noodles (one ladle), appropriate serving sizes of meat/vegetables/fruits, common seasonings, and seasonings with reduced nutrients (e.g., sodium, fat, sugar), allowing the elderly to browse and learn at their own pace.

SDG

2 ZERO HUNGER

3 GOOD HEALTH AND WELL-BEING

4 QUALITY EDUCATION

1.2. Food Science and Nutrition






SDG alignment in activities

SDG 2 2.1.1 Prevalence of undernourishment

Providing lectures on nutritional principles for adolescents and the elderly, non-communicable chronic diseases caused by inappropriate food consumption, and nutritional labels. This includes a game activity to find information on nutritional labels and a practical activity on portioning food to meet individual energy and nutrient needs, as well as specific dietary requirements for congenital disease

SDG 3 3.4.1 Mortality rate from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases.

Measurement is conducted using pre- and post-surveys from the lectures on nutritional principles, non-communicable chronic diseases from inappropriate food consumption, and how to read nutritional labels. This is followed by measuring the results of activities such as a game to find information on labels and a practical session on portioning food to match individual energy, nutrient needs, and specific dietary requirements for chronic diseases. The goal is for participants to apply this knowledge in their daily lives, thereby reducing the premature mortality rate from the four main non-communicable chronic diseases: cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases.

SDG 4 4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex.

Based on the initial indicators, the workshops organized by the Department of Food Science and Nutrition are a form of structured learning that falls outside the formal school system. This short-term training provides fundamental skills in nutritional principles, non-communicable chronic diseases caused by improper diet, and how to read nutritional labels. The workshops are offered to two groups: youth under 18 from Benjamaracharangsarit School and a group of adults (the elderly) from the Ongkharak Model School for the Elderly.

1.3. Bachelor of Science Program in Polymer Materials Technology

Target group

1. Ban Huai Rong Organic Way Community Enterprise, Bang Phli District, Nakhon Nayok Province
2. Nakhon Nayok Tree Bank Community Enterprise, Mueang District, Nakhon Nayok Province

Integration

1. PIM 441 Innovative Packaging
2. PIM 346 Polymer Product Quality Assurance Laboratory

Implementing activities

The academic service activities of the Polymer Materials Technology program consisted of two sub-activities: (1) training on carbon footprints and agricultural carbon credit assessment and (2) a social return on investment (SROI) assessment activity. These activities were aimed at contributing to the United Nations' Sustainable Development Goals (SDGs) and the strategic plans of the Faculty of Agricultural Technology and Innovation and Srinakharinwirot University. The activities were integrated with coursework by having students visit local communities for knowledge exchange (KPI3-10, SDG4.3.1). The knowledge gained from classroom lessons and the training was integrated into academic services with the goal of improving community well-being (KPI3-07), empowering communities to become self-reliant, and providing a framework for sustainable environmental management. And This initiative also involved applying interdisciplinary knowledge from polymer materials technology to develop community products (KPI3-09) and monitoring the results to assess the social, economic, and environmental returns on investment (SDG12), covering all key performance indicators.

NEXT

Activity Outputs

Sub-Activity 1: Training on Carbon Footprint and Agricultural Carbon Credits

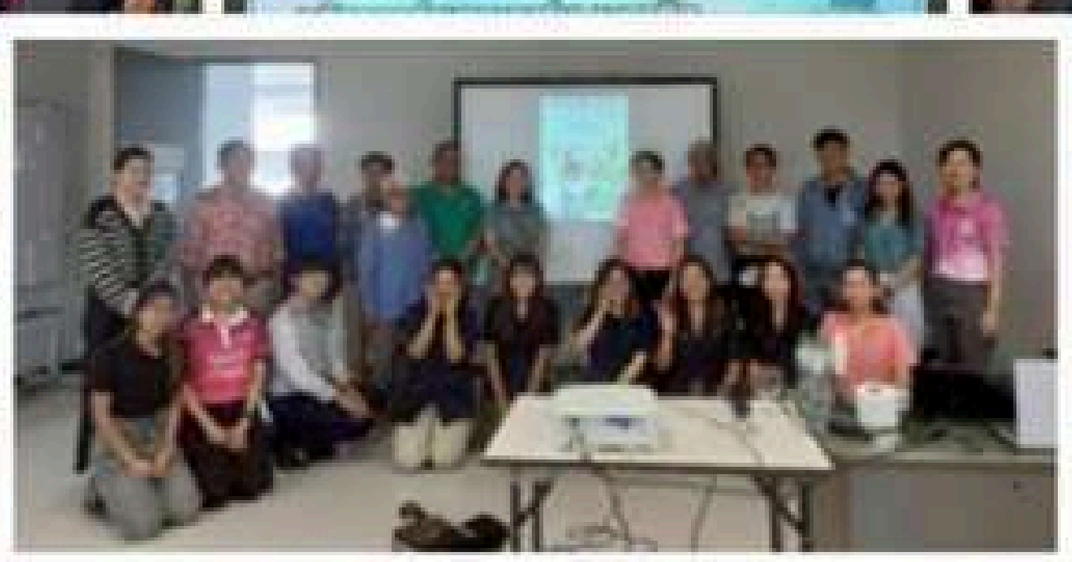
This workshop on "Carbon Footprint and Agricultural Carbon Credit Assessment" involved nine third-year students enrolled in the courses PIM 441 Innovative Packaging and PIM 346 Polymer Product Quality Assurance. The students developed holistic learning and participation skills by applying classroom knowledge in a real-world setting with a community enterprise. This experience fostered their understanding, improved their ability to connect with people, and strengthened their commitment to development.

Sub-Activity 2: Social Return on Investment (SROI) Assessment

Nine third-year students from PIM 441 Innovative Packaging and PIM 346 Polymer Product Quality Assurance learned to collect data from the "Withee Insee Ban Huai Rong" community enterprise to use for a Social Return on Investment (SROI) assessment. This hands-on experience allowed the students to apply their classroom knowledge in a practical setting, fostering a deeper understanding, enhancing their ability to engage with people, and strengthening their commitment to development.

1.3. Bachelor of Science Program in Polymer Materials Technology










SDG alignment in activities

SDG 4 4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex

Applying knowledge from classroom learning and training workshops, we integrated academic service with the goal of improving community well-being. This activity was a core component of two courses: PIM441 Innovation Packaging and PIM346 Polymer Product Quality Assurance Laboratory. Both courses are part of the continuous curriculum in Polymer Material Technology under the Faculty of Technology and Agricultural Product Innovation at Srinakharinwirot University.

SDG 12 12.1.1 Number of countries developing, adopting or implementing policy instruments aimed at supporting the shift to sustainable consumption and production

Sub-activity 2 of Polymer Material Technology, titled "Social Return on Investment (SROI) Assessment," involves a follow-up of the academic service project from 2024. This project, "Academic Service for Enhancing Economic Value in the Community for Sustainable Development (SDGs)," uses SROI as a tool for evaluation and monitoring. The SROI tool calculates the rate of return by comparing social outcomes to the investment costs, converting the project's impact into an economic value. In this activity, the calculated SROI value was 0.79 THB.

SDG 13 13.2.2 Total greenhouse gas emissions per year.

In Activity 1, "Agricultural Carbon Footprint and Carbon Credit Assessment," we integrated the value of ecosystems and biodiversity into the development of local and national plans, development processes, poverty reduction strategies, and accounts by the year 2020.

1.4. Biotechnology and Agricultural Products

Target group

General public

Integration

BOT201 Plant Biotechnology

Implementing activities

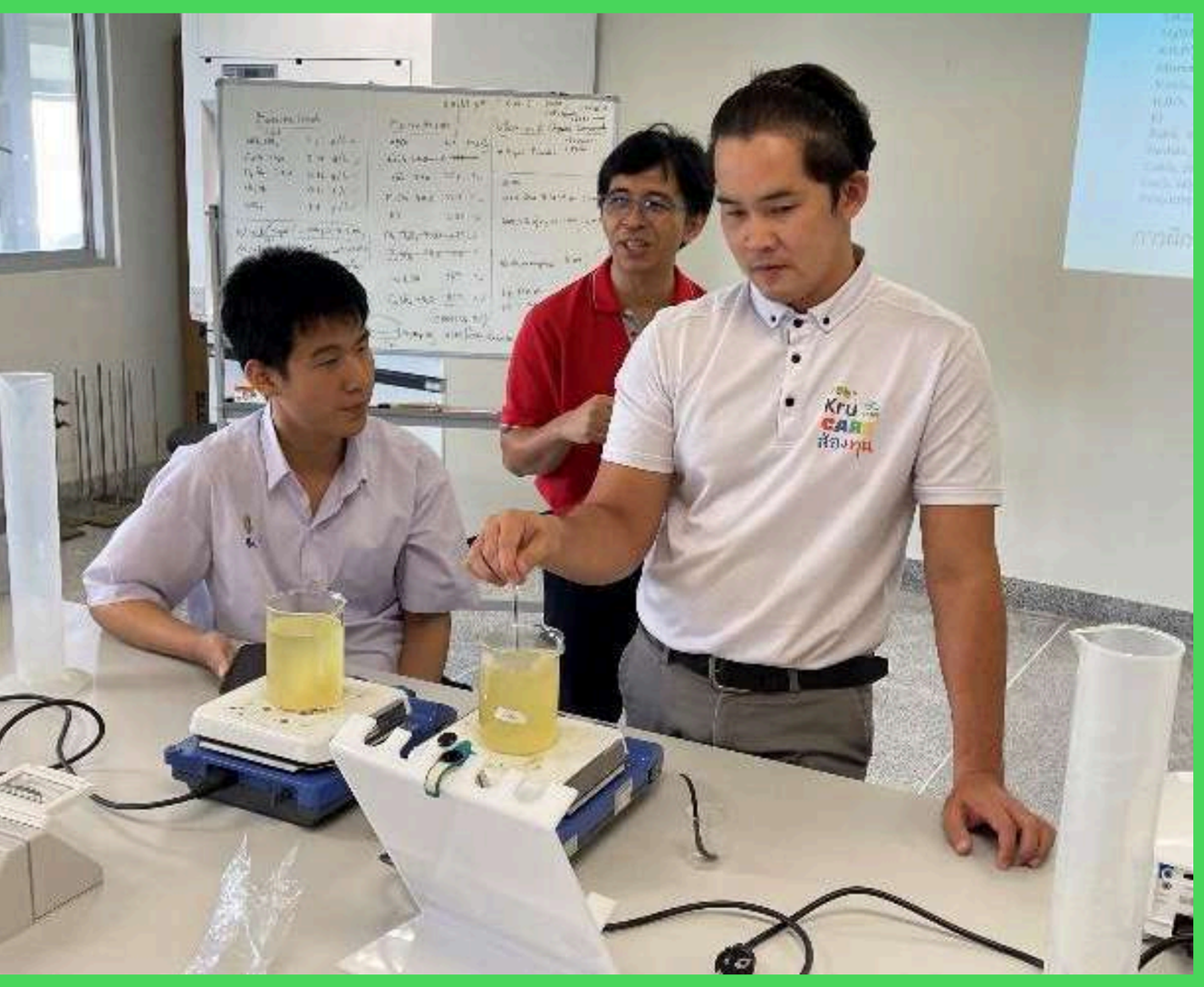
1) The participants of the training gained access to information and learned the operational procedures for plant biotechnology, specifically in plant tissue culture. The facilities and support for this work are crucial for developing products for participants who are farmers or food producers, helping them improve their sustainable agricultural practices.

2) The activity provided an opportunity for the general public to apply and participate, promoting lifelong learning and the development of professional skills in plant tissue culture. This included preparing culture media and learning the correct procedures. The training received positive feedback from participants who expressed interest in a future project related to agricultural biotechnology. This will be an integrated activity involving classroom instruction for a local community school (Ongkharak School) and will include university students.

Activity Outputs

- Laboratory on Plant Tissue Culture Instructional Video Clip
- Creating New Careers and Increasing Household Income (currently in the process of monitoring output)

1.4. Biotechnology and Agricultural Products



SDG alignment in activities

SDG 2 2.5.1 measures the number of plant and animal genetic resources for food and agriculture that are secured in medium- or long-term conservation facilities, ensuring their continued existence and diversity for future food security

The training participants gained access to information and operational procedures in plant biotechnology, specifically plant tissue culture. Therefore, facilities and support for this work are essential for developing products for participants who are farmers or food producers, aiming to improve sustainable agricultural practices. They can then integrate the knowledge from their classroom studies and training activities with academic services that target community well-being.This activity is one of the integration methods used in the subjects PIM441 Innovative Packaging and PIM346 Polymer Product Quality Assurance Laboratory, which are part of the curriculum for the Polymer Material Technology major under the Faculty of Technology and Agricultural Product Innovation at Srinakharinwirot University.

SDG 4 4.3.1 The participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex.

This activity provided an opportunity for interested individuals from the public to apply and participate, promoting lifelong learning in the development of professional skills in plant tissue culture. This includes proper procedures for media preparation and learning. Furthermore, the training received great interest from participants, who expressed a desire for future projects related to agricultural biotechnology. There are plans to integrate this activity with the teaching and learning at a local school (Ongkharak School), with university students also taking part.

SDG alignment in activities

SDG 4 4.4.1 Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill

From Activity 2, which involved the transfer of knowledge and practical training on preparing plant tissue culture media, along with a visit to the Faculty of Technology and Agricultural Product Innovation's laboratory on the 7th, 8th, 9th, and 10th floors of the Innovation for Sustainability Building, both university and high school students gained specialized skills in plant tissue culture.

Additionally, the university students practiced their communication skills by serving as mentors, supporting the participants in tissue culture work and the use of laboratory equipment.

1.5. Food Innnovation And Entrepreneurship

Target group

Baan Suan Nudee Nakhon Nayok

Integration

FIE 513 Food Innovation and Technology

Implementing activities

To support farmers and food producers in improving sustainable agricultural practices, this project provided facilities and technology for product development. The project also published information online, with a focus on two new products made from wolffia: wolffia-filled rice balls and instant wolffia noodles with a wolffia seasoning powder. A business model was also developed to help with future sales. And during the knowledge transfer day, the community listened to presentations on market demand analysis, product development, and the business model. They also provided feedback to help with future product development. All information was shared on the Facebook page of the Food Innovation and Entrepreneurship program.

Activity Outputs

Two prototype products:

- Wolffia-stuffed rice balls with mayonnaise sauce
- Wolffia noodles with wolffia seasoning powder

NEXT

1.5. Food Innnovation And Entrepreneurship

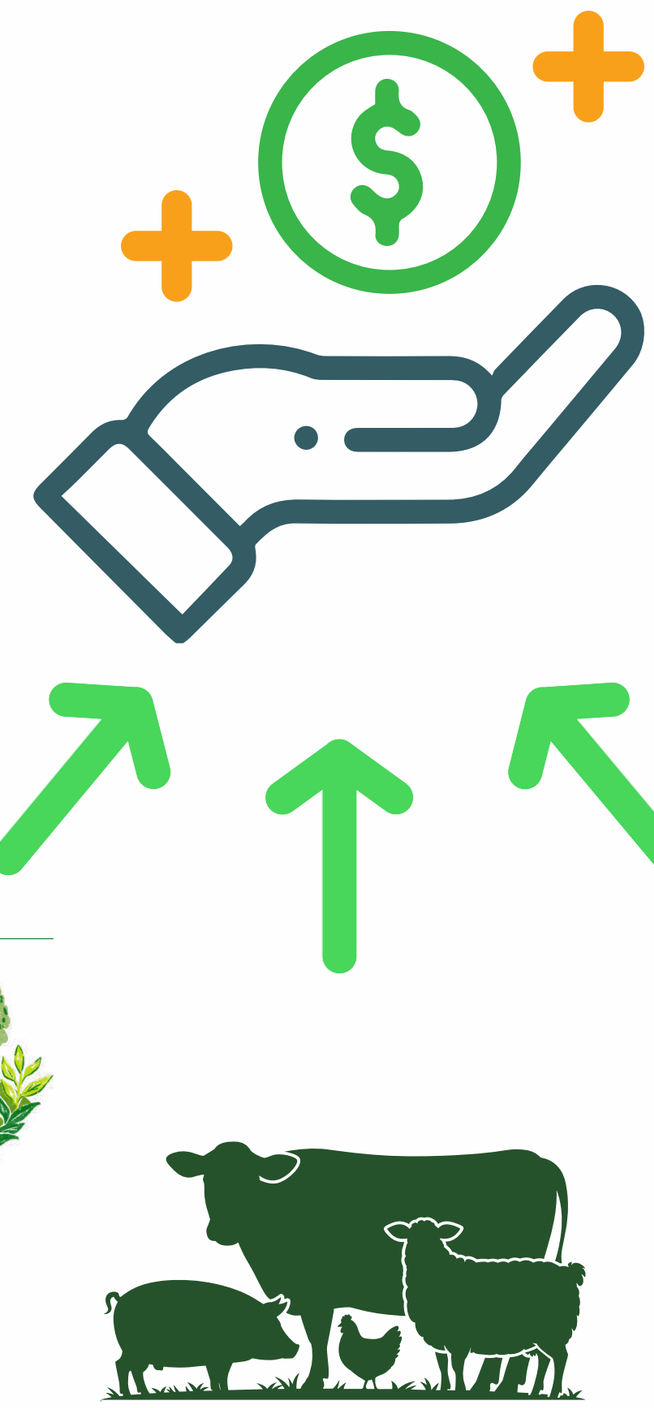
SDG alignment in activities

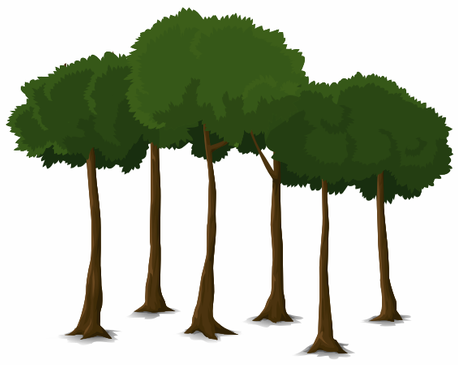
SDG 2 ตัวชี้วัด 2.3.1 The value of production per labour unit in agriculture, forestry, and fisheries, disaggregated by the size of the enterprise.

This project applied technology to develop products for farmers in Ban Nu Dee, Mueang District, Nakhon Nayok Province, with the goal of improving sustainable agricultural practices and disseminating information via a website.

Two products were developed from water lentil (Lemna) or "Kai Pam": 1) rice balls with water lentil filling, and 2) instant water lentil noodles with a seasoning powder made from the same plant. A business model was also developed to help the farmers expand their sales in the future.

On the day of the knowledge transfer, the community participated by listening to the market analysis, product development guidelines, and business model. They also provided feedback to help with further product development.





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Vocational Training Program

Vocational Training Program

March 22 - May 31, 2025

Project Objectives

1. To provide knowledge and vocational skills to interested individuals, enabling them to pursue sustainable careers and income.
2. To build a collaborative network between trainees and relevant sectors for future knowledge exchange and business opportunities.

Responsible Agency

Unit of Social Engagement Faculty of Agricultural Product Innovation and Technology

Principles and Rationale

Currently, developing professional skills is a key factor that allows people to earn income and improve their quality of life sustainably. However, many individuals still lack access to the essential knowledge and skills needed for a career, which can lead to unemployment, insufficient income, or a lack of personal development opportunities.

This career training program was created to provide knowledge, skills, and guidance to interested individuals. It focuses on hands-on practice combined with education on management, marketing, and product development, enabling participants to apply what they learn effectively. The project also promotes a collaborative network among participants, which will support them and facilitate long-term knowledge exchange.

Therefore, this training is vital for developing people's potential. It gives those who are interested the chance to start or grow their own careers, leading to stable and sustainable income. This will, in turn, help reduce unemployment and boost the overall economy of the community and the country.

Target group

- Participants: 60 people
- Project Team: 6 staff members from the Faculty

Vocational Training Program

Project implementation

Upon the project's approval, a request was made for the procurement of materials, equipment, and raw ingredients for the training.During this preparation period, we initiated Sub-activity 1, which involved testing food formulas and creating an instructional video. We also ran a two-week public relations campaign to recruit participants. Once the required number of participants was met, we began Sub-activity 2, the professional training program, on Saturday, May 24, 2025, and Sunday, May 25, 2025.

Project output

Activity 1: Food Formula Testing and Video Creation

Seven food and dessert menus were developed to be used as a guide for future careers and income generation (7 cooking tutorial videos) .

- Mango Sticky Rice
- Fresh Pasta
- Carbonara with Wolffia Sauce
- Soft-Faced Chocolate Cake
- Orange Cake
- Caramel Custard
- Mango Caviar

Activity 2: Professional Training Program

Saturday, May 24, 2025

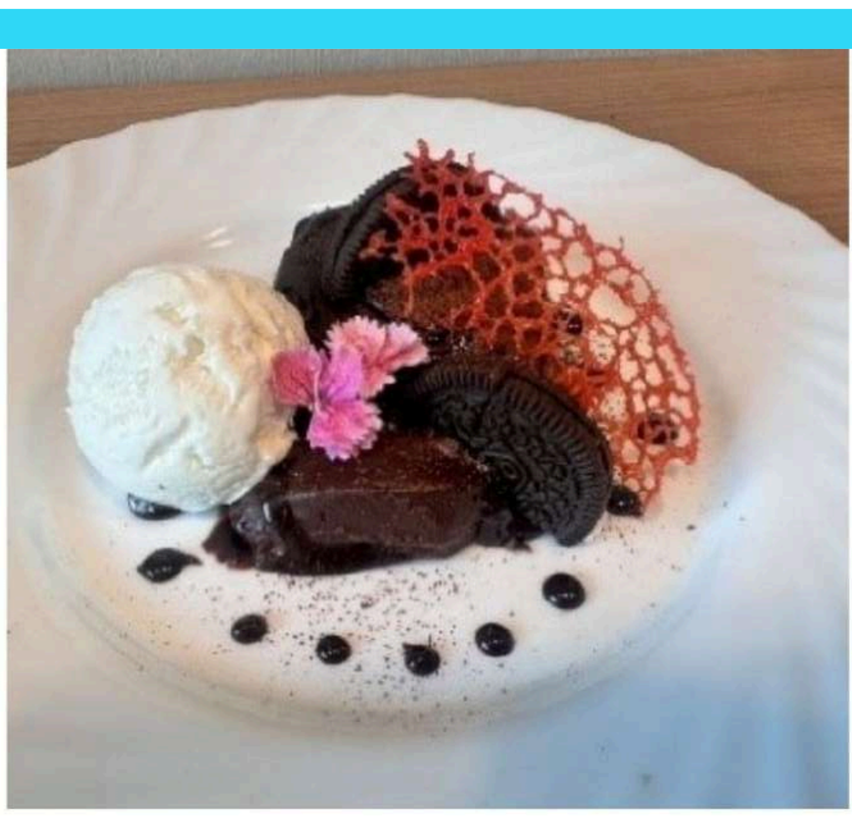
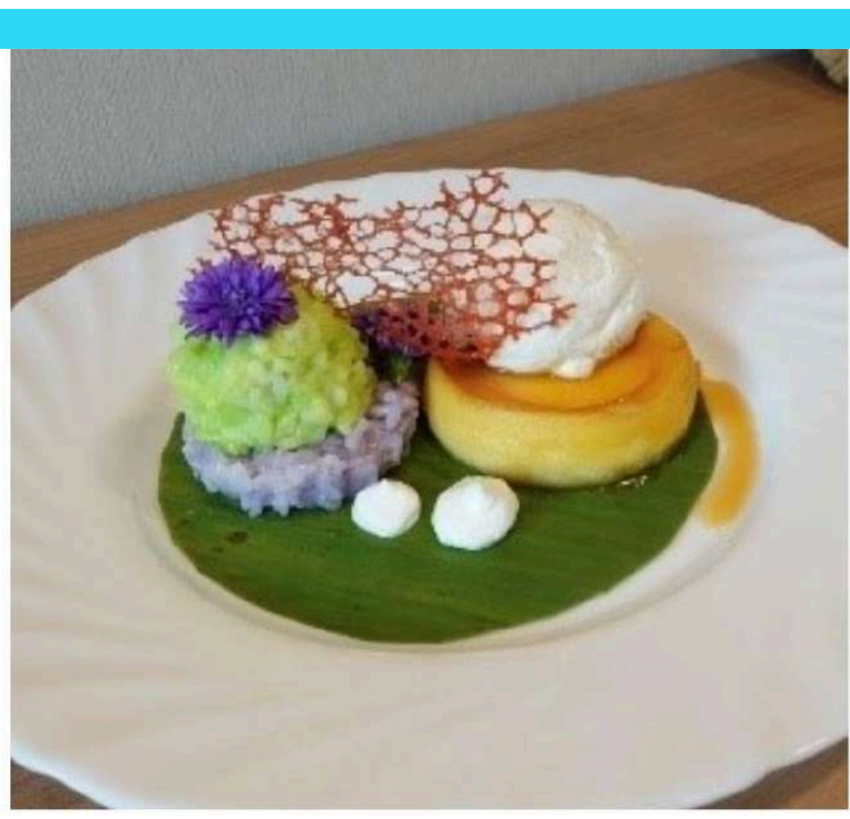
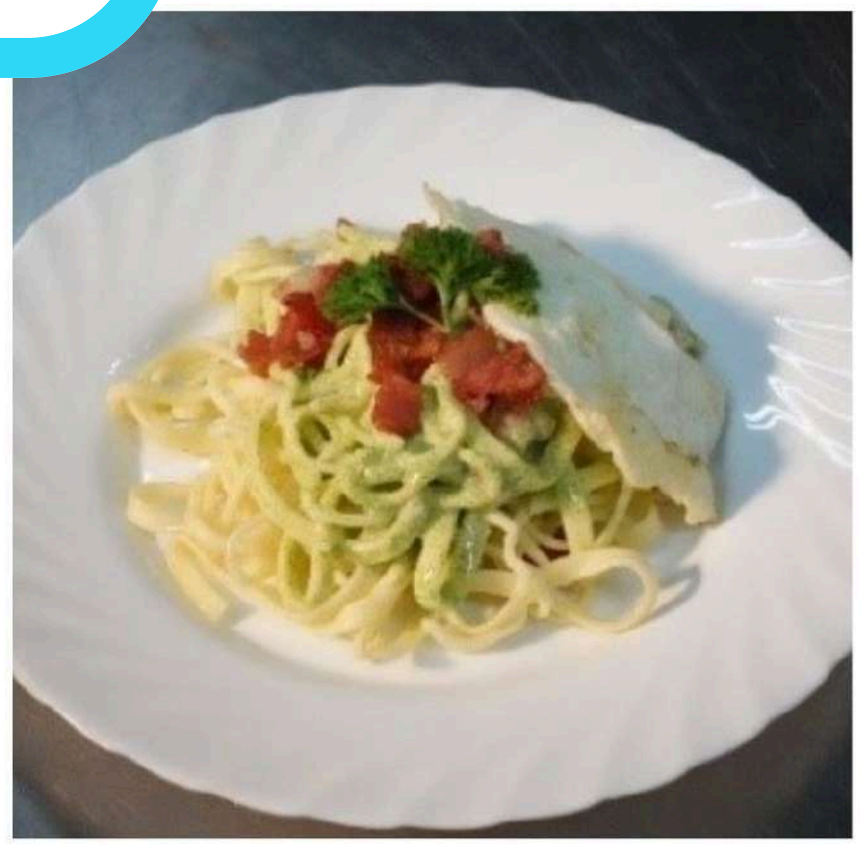
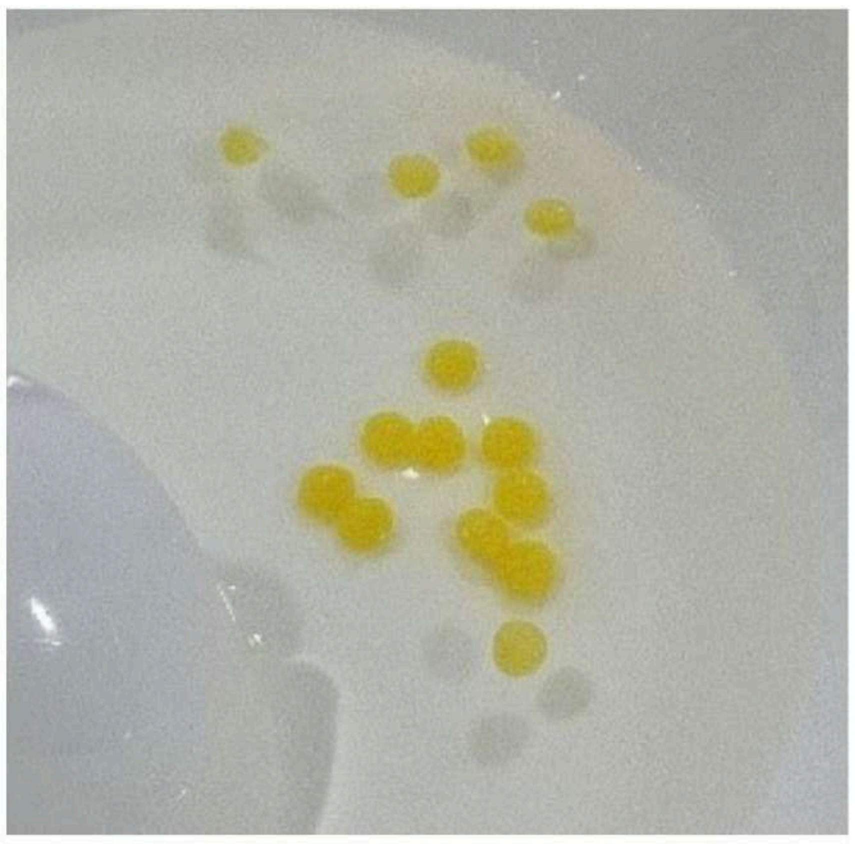
- Mango Sticky Rice
- Coconut Milk Ice Cream

Sunday, May 25, 2025

- Fresh Pasta
- Carbonara with Wolffia Sauce

NEXT

Vocational Training Program



Vocational Training Program

"ข้าวเหนียวมะม่วง"

วัตถุดิบ

- ข้าวเหนียว	1	ถ้วยตวง
- กะทิสด	150	มิลลิลิตร
- กะทิกล่อง	100	มิลลิลิตร
- น้ำตาลปี๊บ	65	กรัม
- เกลือ	1/4	ช้อนชา
- มะม่วงสุก	1	ลูก
- ใบเตยหอม	10	ใบ
- สีผสมอาหาร	1/4	ช้อนชา
- กลิ่นใบเตย	1/8	ช้อนชา

วิธีทำ

1. แช่ข้าวเหนียวในน้ำสะอาด ทิ้งไว้ประมาณอย่างน้อย 4 ชั่วโมง หรือ แช่ข้ามคืนไปเลย
2. นำข้าวเหนียวล้างน้ำและนำไปนึ่ง ใช้เวลาประมาณ 20-25 นาที
3. ระหว่างที่รอนึ่งข้าวเหนียว ให้ทำน้ำกะทิ ประกอบด้วย กะทิสด กะทิกล่อง น้ำตาลปี๊บ เกลือ คนให้เข้ากับตั้งไฟกลาง ระวังไม่ให้กะทิเดือด
4. เมื่อข้าวเหนียวสุกแล้ว คอนข้างร้อน ๆ ตักใส่ถ้วยผสม แล้วแหล่วนผสมของกะทิลงไปใช้ทัพพีคนเบา ๆ ให้กะทิซึมเนื้อ แล้วพักไว้ประมาณ 20 นาที ให้ข้าวดูดน้ำกะทิเต็มที่

เทคนิคเสริม

1 วิธีเลือกข้าวเหนียวที่เป็นข้าวใหม่ เม็ดสวย จะได้ข้าวเหนียวหอมนุ่ม
2 ตั้งน้ำเดือด ใส่ใบเตยลงไปในหม้อนึ่งด้วย จะได้กลิ่นหอม ๆ
3 ระหว่างนึ่ง ถ้าเห็นว่าข้าวเริ่มแห้ง ก็พรมน้ำบาง ๆ ช่วยให้ข้าวมีความชุ่มไม่แห้ง
4 ข้อควรระวัง อย่าใช้ไฟแรงมากครับ กะทิจะเดือดแตกมัน ดูไม่สวยและเสียรสชาติ
5 จัดเสริฟโดยปอกเปลือกมะม่วง หั่นชิ้นสวย ๆ หรือ แกะสลัก ตักข้าวเหนียวและมะม่วงใส่ที่พิมพ์วางลงบนจาน และสุดท้ายตกแต่งด้วยดอกไม้

อ.พนาพุฒ ธนะชร้าง

"ไอกรีมกะทิ"

วัตถุดิบ

- กะทิสด	300	มิลลิลิตร
- กะทิกล่อง	200	มิลลิลิตร
- น้ำเปล่า	150	มิลลิลิตร
- นมข้นจืด	100	มิลลิลิตร
- นมข้นหวาน	40	กรัม
- แป้งข้าวโพด	2	ช้อนโต๊ะ
- เกลือ	1/4	ช้อนชา
- กลิ่นวนิลา	½	ช้อนชา

วิธีทำ

1. เทส่วนผสม กะทิสด กะทิกล่อง น้ำเปล่า นมข้นจืด แป้งข้าวโพด คนให้เข้ากัน
2. นำไปตั้งไฟให้เดือด ปิดไฟ เติม นมข้นหวาน เกลือ กลิ่นวนิลา คนให้เข้ากันอีกครั้ง
3. นำส่วนผสมไปกรองด้วยตะแกรงใส่กล่อง จากนั้นนำใส่ตู้แช่เย็นประมาณอย่างน้อย 6 ชั่วโมง
4. เอาออกจากช่องแช่แข็ง แบ่งให้มีขนาดเล็ก นำไปปั่นให้ละเอียด
5. เทส่วนผสมทั้งหมดนำไปแช่ช่องแช่แข็งอีกครั้ง ประมาณอย่างน้อย 6 ชั่วโมง
6. นำออกจากช่องแช่แข็ง พักทิ้งไว้ 2 -3 นาที ตักเสริฟได้

เทคนิคเสริม

1. ต้มไฟอ่อนจนเดือด หมั่นคนเพื่อไม่ให้กะทิแตกมัน
2. แบ่งส่วนผสมน้ำกะทิบางส่วนมาผสมกับแป้งข้าวโพดก่อนให้เข้ากันก่อน จากนั้นค่อยนำไปรวมกับส่วนผสมอื่นเพื่อให้แน่ใจว่าคนแป้งข้าวโพดให้เข้ากันได้ดีแล้ว

หากไม่ชอบกลิ่นนมข้นหวานให้ปรับเปลี่ยนได้ตลอดส่วนผสมของนมข้นหวานออกแล้วจากนั้นให้เพิ่มความหวานด้วยน้ำตาลทรายแทน

อ.พนาพุฒ ธนะชร้าง

"คาโบนาร่าซอสไข่ผ้า"

วัตถุดิบ

พาสต้า (เส้นสด)	100	กรัม
เบคอน	50	กรัม
ไข่ไก่	1	ฟอง
ครีมวิปปิ้ง	100	กรัม
เกลือ	1/8	ช้อนชา
พริกไทย	1	หยิบมือ
Parmesan Cheese (พาร์เมซานชีสฝอย)	50	กรัม
ครีมชีส	50	กรัม
กระเทียม	2	กลีบ
น้ำมันมะกอก	1	ช้อนโต๊ะ
ไข่ผำ	1	ช้อนโต๊ะ

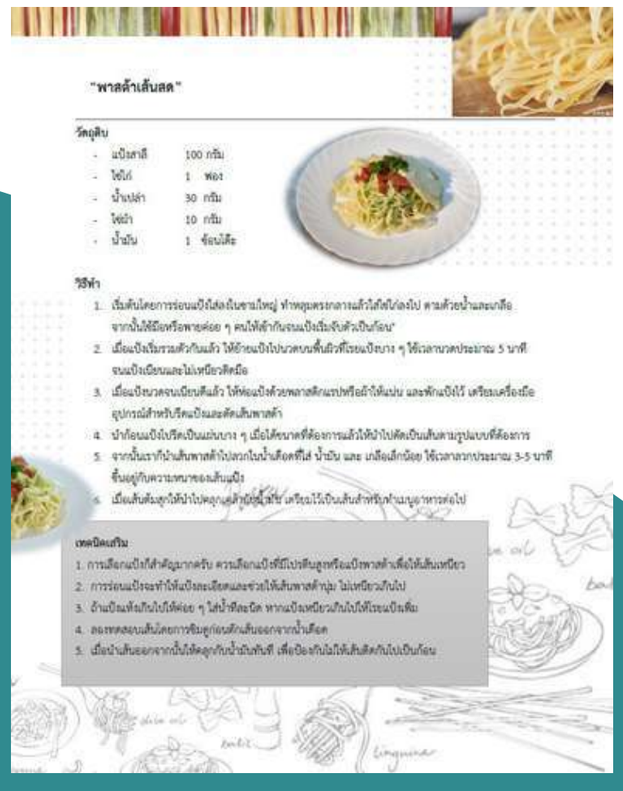
วิธีทำ

1. เริ่มต้นด้วยการทำเบคอนกรอบ ๆ ครับ ใส่เบคอนลงในกระทะที่ร้อน และหอดจนกรอบ ใช้ไฟกลาง-อ่อน เพื่อไม่ให้ไหม้ เมื่อเบคอนกรอบแล้ว ให้พักไว้บนกระดาษทิชชู่เพื่อดูดซับน้ำมัน
2. แบ่งไข่เป็น 2 ส่วน ไข่ขาว ไข่แดง โดยนำไข่ขาวไปทอด และนำไข่แดงตีเข้ากับ Parmesan Cheese (พาร์เมซานชีสฝอย) และไข่ผำ
3. นำพาสต้ามาผสมกับเบคอนที่เราทอดไว้ในกระทะแล้วเทของที่เตรียมไว้ลงไปในกระทะ ทอดผสมให้เข้ากัน
4. นำกระทะลงจากเตาปิดไฟ พักไว้ ใส่ส่วนผสมไข่ที่เตรียมไว้ ปรุงรสด้วยเกลือและพริกไทย
5. เมื่อทุกอย่างผสมกันดีแล้ว ก็ได้ เมนูพาสต้าคาโบนาร่า เสิร์ฟในจานและโรยพาร์มีซานเพิ่มเติมก็ได้ สามารถตกแต่งด้วยพริกไทยและไข่ผำสดตามใจชอบ

เทคนิคเสริม

1. การทอดเบคอนด้วยไฟอ่อนจะทำให้เบคอนกรอบเท่ากันและไม่แข็งเกินไปครับ
2. ถ้าคุณไม่ชอบครีมมากเกินไป สามารถใช้ครีมสดเล็กน้อยหรือไม่ใส่ครีมเลยก็ได้ สูตรตั้งเดิมจะใช้แค่ไข่และชีส
3. ใส่น้ำมันมะกอกเพื่อช่วยให้มีกลิ่นหอม
4. กรณีน้ำแห้งหรือข้นมากเกินไปให้ใช้น้ำลวกไข่ หรือน้ำซุป เพื่อช่วยให้ซอสเนียนและเคลือบเส้นพาสต้าได้ดี

อ.พนาพุฒ ธนะชร้าง



"พาสต้าเส้นสด"

วัตถุดิบ

- แป้งสาลี	100	กรัม
- ไข่ไก่	1	ฟอง
- น้ำเปล่า	30	กรัม
- ไข่ผำ	10	กรัม
- น้ำมัน	1	ช้อนโต๊ะ

วิธีทำ

1. เริ่มต้นโดยการร่อนแป้งใส่ลงในชามใหญ่ ทำหลุมตรงกลางแล้วใส่ไข่ไก่ลงไป ตามด้วยน้ำและเกลือ จากนั้นใช้มือหรือพายค่อย ๆ คนให้เข้ากันจนแป้งเริ่มจับตัวเป็นก้อน"
2. เมื่อแป้งเริ่มรวมตัวกันแล้ว ให้ย้ายแป้งไปบนตบนพื้นผิวที่โรยแป้งบาง ๆ ใช้เวลานวดประมาณ 5 นาที จนแป้งเนียนและไม่เหนียวติดมือ
3. เมื่อแป้งนวดจนเนียนดีแล้ว ให้ห่อแป้งด้วยพลาสติกแรปหรือผ้าให้แน่น และพักแป้งไว้ เตรียมเครื่องมือ อุปกรณ์สำหรับรีดแป้งและตัดเส้นพาสต้า
4. นำก้อนแป้งไปรีดเป็นแผ่นบาง ๆ เมื่อได้ขนาดที่ต้องการแล้วให้นำไปตัดเป็นเส้นตามรูปแบบที่ต้องการ
5. จากนั้นเราก็นำเส้นพาสต้าไปลวกในน้ำเดือดที่ใส่ น้ำมัน และ เกลือเล็กน้อย ใช้เวลาลวกประมาณ 3-5 นาที ขึ้นอยู่กับความหนาของเส้นแป้ง
6. เมื่อเส้นสุกให้นำไปพลุกเส้นที่สุกแล้วใส่ถาด เตรียมไว้เป็นเส้นสำหรับนำไปปรุงอาหารต่อไป

เทคนิคเสริม

1. การเลือกแป้งก็สำคัญมากครับ ควรเลือกแป้งที่มีโปรตีนสูงหรือแป้งพาสต้าเพื่อให้เส้นเหนียว
2. การร่อนแป้งจะทำให้แป้งละเอียดและช่วยให้เส้นพาสต้านุ่ม ไม่เหนียวติดกันไป
3. ถ้าแป้งแห้งกันไปให้ห่อย ๆ ใส่น้ำทีละนิด หากแป้งเหนียวกันไปให้โรยแป้งเพิ่ม
4. ลองทดสอบเส้นโดยการชิมลูกก่อนตัดเส้นออกจากน้ำเดือด
5. เมื่อนำเส้นออกจากนั้นให้คลุกกับน้ำมันทันที เพื่อป้องกันไม่ให้เส้นติดกันไปเป็นก้อน

3

Mobile Academic Service Project

Mobile Academic Service Project

December 16, 2024 - July 31, 2025

Project Objectives

1. To create a collaborative network with government agencies, private sectors, entrepreneurs, and communities in Nakhon Nayok Province and nearby areas.
2. To collect the needs of partner organizations.

Responsible Agency

Unit of Social Engagement Faculty of Agricultural Product Innovation and Technology

Principles and Rationale

Srinakharinwirot University's core mission is to produce high-quality, ethical graduates who are equipped with the skills to work and serve society in their respective fields. These graduates are considered a vital resource for national development. The university also focuses on fostering research among both faculty and graduate students to update existing knowledge and create new, sustainable knowledge for society. This aligns with the university's goal of being a Learning University for Society. The Faculty of Agricultural Technology and Innovation has consistently followed this policy.

The Division of Social Engagement, Faculty of Agricultural Technology and Innovation, recognizes the importance of building collaborative networks with government agencies, private sectors, and various entrepreneurs. Therefore, they launched a mobile academic service project to go into the field to listen to the policies, needs, and challenges of communities. This information is then used to co-develop innovations and solutions that directly address the needs of the service recipients. Additionally, this initiative helps faculty members enhance their teaching and research skills and develop students who can apply their knowledge to benefit society, fulfilling the university's mission as a Learning University for Society.

NEXT

Mobile Academic Service Project

Target group

- Faculty and staff: 10 people
- Students from the Faculty of Agricultural Technology and Innovation: 15 people
- External participants: 80 people

Project implementation

- Organize a committee meeting to plan the project.
- Coordinate with the visit sites.
- Conduct the project by visiting the planned locations.
- Summarize the project's outcomes and prepare a final report.

Project output

Total of 8 networks or collaborations with the Faculty.

Nakhon Nayok Provincial Agriculture Office, Mueang District

A meeting to drive the efficient integration of community enterprise promotion efforts was held to support the missions of agencies and the activities of community enterprises. This meeting aimed to improve coordination and ensure the effective integration of community enterprise promotion. It also served as a platform to propose solutions to problems, address obstacles, and provide recommendations for promoting and supporting community enterprises at the district level, while also encouraging the assessment of potential and the creation of development plans for community enterprises.

Nakhon Nayok Provincial Agriculture Office, Pak Phli District

A meeting to drive the efficient integration of community enterprise promotion efforts. The meeting covered topics such as the registration of community enterprises/networks, the assessment of their potential, and concepts for developing and expanding community enterprises. It also focused on promoting and supporting the development of community enterprise entrepreneurs.

Nakhon Nayok Provincial Agriculture Office, Ongkharak District

A meeting to drive the efficient integration of community enterprise promotion efforts to support the missions of agencies and the activities of community enterprises.

Project output

Nakhon Nayok Provincial Agriculture Office, Ban Na District

A meeting to drive the promotion of community enterprises at the district level to ensure they are strong, sustainable, and aligned with the guidelines set by the provincial community enterprise promotion committee. It also serves to coordinate and integrate the work of relevant agencies in promoting and supporting community enterprises. The meeting reviewed and screened requests for support from community enterprises and networks at the district level, while also providing a platform to discuss obstacles, propose solutions, and make recommendations for their promotion and support. The meeting also encouraged the assessment of potential and the creation of development plans for community enterprises.

Nakhon Nayok Provincial Agriculture Office

A meeting was held to drive the promotion of community enterprises, as well as to promote and support them in accordance with Section 21. The goal was to ensure that local promotional efforts are integrated and aligned with agency missions. The meeting also involved studying and collecting data, and proposing opinions on measures and plans for developing and promoting community enterprises within the province to the committee. It also served to coordinate with government agencies to ensure efficient collaboration.

Project output

Nakhon Nayok Provincial Community Development Office

A workshop for the project to increase the potential of safe agricultural product production and promote processing enterprises to add value.This workshop aims to help the target group generate income from safe food businesses within the OTOP Nawatwithi tourism initiative. It will also help them create a development and expansion plan, connect to safe food market channels, and develop their brand/packaging. All of this will be achieved by integrating cooperation with public and private sector partners.

Bank for Agriculture and Agricultural Cooperatives (BAAC) Nakhon Nayok Province

Training Activity on Carbon Footprint, Carbon Neutrality, and Carbon Offsetting for government agencies and groups of perennial crop farmers.

Sinnova Company Limited

To build a collaborative network with agencies, collect their specific needs, and visit their production sites. The project aims to consult on product and packaging development and establish a partnership for students to gain work experience. Students will apply their knowledge to complete assigned tasks within the agencies' work plans. Additionally, the project will organize training sessions for the agencies' staff, with faculty members serving as instructors. The training topics will cover packaging market trends, using packaging for cost reduction and shelf-life extension, and the direction of eco-friendly packaging.

Project output

Received at least one task for the development of instruction, research, or income-generating academic services.

A study on the potential for developing health food products from wolffia (water lentils), a future food ingredient, throughout the value chain. **Collaboration with**: <u>Nakhon Nayok Agricultural Innovation Community Enterprise</u>

1. To study the conditions for cultivating wolffia to achieve higher quantity and quality.
2. To study methods for extending the shelf life of fresh wolffia after harvesting using non-thermal processing.
3. To study drying methods to prepare wolffia as an ingredient for functional food products.
4. To develop health food products that meet consumer needs.
5. To study the properties of health foods.

This project is participating in the Innovation for Society and Community Development Support Program 2025 under the topics of food innovation, innovation for solving climate change problems, and digital innovation.

Publicize knowledge or participate in activities of other agencies, at least one event.

Training was provided to agency staff, with faculty members serving as instructors. The training covered topics such as packaging market trends, using packaging to reduce costs, extending shelf life with packaging, and the direction of eco-friendly packaging.

ACADEMIC SERVICE PROJECT FOR COMMUNITIES

Fiscal year 2025

THANK YOU









Faculty of
Agricultural Product
Innovation and Technology
SRINAKHARINWIROT UNIVERSITY