



Training on Making Various Health Drinks at the Agrotechnology Laboratory of Uniska Kediri

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ABSTRAK

Indonesia is an agrarian nation rich in various food and medicinal plants that thrive in a tropical climate. Health drinks widely consumed by the public include traditional *jamu*, herbal remedies, various fruit juices, soy milk, and packaged beverages certified by BPOM and PIRT. This community empowerment training aimed to provide knowledge and practical skills in producing health drinks designed to boost the immune system, specifically *beras kencur*, *kunir asam*, *kunci suruh*, and soy milk. The training was conducted in May 2026 at the Agrotechnology Laboratory and was attended by 36 Agrotechnology students. The implementation method involved delivering training material, followed by a Q&A session, and hands-on practice in health drink processing, packaging, and organoleptic testing. The health drinks produced can be used for daily health maintenance and as remedies for various ailments. Additionally, the activity offers potential for MSME-scale businesses, thereby enhancing the community's economic value and family welfare

INTRODUCTION

Health Drinks are beverages consumed not just to quench thirst, but also have additional functions to maintain, improve, or repair the body's health. According to BPOM regulations, they fall under the category of Processed Food for Special Nutrition Purposes or Functional Drinks if there are health benefit claims. The requirements for Health Drinks are that they must be safe, free from harmful substances, approved by BPOM, beneficial due to scientifically proven nutrients/bioactive compounds, and must have clear serving recommendations & consumption limits. Jamu Kunir Asam is a traditional health drink used for anti-inflammation, regulating menstruation, boosting immunity, and it's high in antioxidants. It tastes sweet, fresh, and sour. Jamu Beras Kencur is a traditional drink used to increase appetite, refresh the body, relieve bloating, fatigue, and soothe the throat. It tastes sweet, spicy, and fresh. Jamu Kunci Suruh is a traditional herbal drink specifically for women. Its main function is to maintain the health of female organs, reduce vaginal discharge, make the body firm, fragrant, and tight. It tastes slightly tangy, fresh, and warmly spicy.

Soy milk is a high-protein plant-based drink made from soybeans. It's suitable as a substitute for cow's milk, for vegans, or for those who are lactose intolerant. Back in the Mataram kingdom era, traditional herbal medicine, known as jamu, was already known and used by people to treat all kinds of illnesses and was highly trusted as an effective herbal medicine. The jamu industry started to develop from 1940 to 1974, and with the formation of the Indonesian jamu committee, it experienced a golden era until 1990. The tradition of drinking jamu has had its ups and downs, but people still continue to use the jamu industry as a traditional medicine alternative to this day.

Various types of herbal drinks sold in traditional markets and by street vendors include beras kencur, tamarind turmeric, temulawak, kunci suruh, and others. Beras kencur is reported to contain active antioxidant compounds and can boost the immune system if consumed regularly (Herlina, et al., 2023). Other sources say that various rhizomes, turmeric, and lemon have been reported to have antioxidant properties (Sukrasno et al., 2017). Research explains that differences in phenolic compound content in plants can affect pharmacological activity (Sukrasno, 2014). Findings also show that flavonoid and phenolic compounds play a role in protecting against attacks from the environment, such as free radical attacks (Zulkarnaen et al., 2024), so these compounds can function as antioxidants (Farhamzah et al., 2022).

The purpose of community empowerment activities through health drink-making training is to provide skills and motivate people to make drinks that can boost the immune system. The benefits include giving knowledge and technology to agrotechnology students and the community so they understand the importance of maintaining health by consuming good herbal drinks. This training can also help establish new small and medium-sized enterprises (SMEs) in the field of health drinks or traditional herbal medicine that are useful for treating various illnesses.

IMPLEMENTATION AND METHODS

Time and Implementation

The training session on May 10, 2026, was held for 5 hours, starting from 8:00 AM to 1:00 PM WIB at the Agrotechnology Laboratory, Faculty of Agriculture, UNISKA Kediri. The participants were 36 sixth-semester Agrotechnology students. The equipment used included a stove, pot, blender, knife, basin, strainer, stickers, funnel, packaging bottles, plastic, and tissue. The required materials included sugar, turmeric, kencur, salt, cloves, suruh, water, soybeans, tamarind, rice, cinnamon, and pandan leaves.

How to make turmeric and tamarind herbal drink

Ingredients for 1 Liter / 4-5 Glasses

Fresh turmeric 100 grams, tamarind 50 grams, palm sugar 100-150 grams or coconut sugar/rock sugar, water 1 liter, salt: 1/4 tsp. Optional: 2 pieces of ginger, smashed, if you want it warmer, 1 lime if you want it fresher. How to make it: 1. Prepare the turmeric, peel it, wash the turmeric thoroughly, grate or blend the turmeric with 200 ml of water until smooth. Step 2. Boil and add the smooth turmeric, the remaining 800 ml of water, tamarind, palm sugar, salt into a pot. Boil on low heat for 15-20 minutes until it boils and the sugar dissolves. Stir occasionally. Don't use high heat because the curcumin in turmeric will be damaged if the temperature is too high. Turn off the heat. Let it sit for 10 minutes so the residue settles and the flavor comes out more. Step 3. Strain & Store. Strain using a thin cloth/fine sieve 2 times to get rid of the sediment. Taste it. If it's not sweet enough, add liquid sugar, if not sour enough, add lime juice. Let it cool, pour into glass bottles. Store in the fridge; it lasts for 5-7 days.

How to make kencur rice herbal drink

Ingredients for 1 Liter / 4-5 Glasses

100 grams of white rice, 100 grams of fresh kencur. 2 segments of ginger, smashed, 150-200 grams of palm sugar, finely grated. You can also mix with 2 tablespoons of white sugar, 1 tablespoon of tamarind. 2 pandan leaves, 1/2 teaspoon salt. 1.2 liters of water. How to Make Step 1. Prepare the rice, wash it clean, soak in water for 3-4 hours until soft. You can also leave it overnight in the fridge. Drain, then toast in a pan without oil over low heat until dry and slightly browned. Keep stirring so it doesn't burn. Let it cool. Step 2. Grind the Spices. Wash kencur and ginger thoroughly. No need to peel if you're sure it's clean. Blend kencur, ginger, toasted rice + 300ml water until smooth. Step 3. Boil. Boil 900ml of water in a pot. Add palm sugar, tamarind, pandan leaves, and salt. Cook until the sugar dissolves. Lower the heat. Add the blended mixture. Stir continuously for 10-15 minutes on low heat. Do not let it boil vigorously as it can break and taste bitter. Just enough to steam and release fragrance. Turn off the heat. Let it sit for 15 minutes so the residue settles and the rice starch sinks. Step 4: Strain & Store. Strain using a thin cloth 2-3 times while squeezing. Make sure the residue is completely separated so it won't get stuck in your throat. Taste it. If it's not sweet enough, add some liquid sugar; if it's not spicy enough, add some kencur juice. Wait for it to cool, then pour into a glass bottle. Store in the fridge.

Keeps in the fridge for 4-5 days. Since it has rice, it goes bad faster than turmeric tamarind. If it turns thick and slimy, throw it away.

How to make kunci suruh herbal drink

Ingredients for 1 Liter / 4-5 Glasses

Key temu kunci 100 grams main ingredient, antibacterial & makes it dry (absorbent). Green betel leaves 10-15 medium-sized leaves act as natural antiseptic. Turmeric: 50 grams works as anti-inflammatory, helps smooth menstruation. Tamarind 2 tbsp gives a fresh aroma & helps absorb curcumin. Palm sugar 100-150 grams, grated as sweetener and to balance sour taste. Salt: 1/2 tsp functions as a balancer & mild antiseptic. Ginger: 1 finger-sized piece, crushed to warm, optional. Water 1 liter. How to make: Step 1. Prepare Ingredients, wash temu kunci, turmeric, ginger. No need to peel. Slice thinly to make it easy to blend. Wash betel leaves leaf by leaf. Choose the old, dark green leaves, no holes. Young betel leaves are less astringent. Dissolve tamarind with 100 ml hot water, squeeze, discard seeds. Step 2. Blend temu kunci + turmeric + ginger + 300ml water until smooth. Step 3. Boil 700ml water in a pot. Add betel leaves. Boil for 5 minutes on low heat until the water turns slightly green & the betel aroma comes out. Don't let the betel leaves sit too long or they'll turn bitter. Add the blended mixture, tamarind water, palm sugar, and salt. Stir well. Simmer on low heat for 15 minutes. Don't let it boil vigorously, just let it steam a little. Turn off the heat. Let it sit for 15 minutes to settle. Step 4. Strain 2-3 times using a thin cloth until clear. The leftover temu kunci is very coarse. Taste it. It should be tangy, fresh, sweet, and warm. If it's bitter, there's too much betel leaf or it's overripe. Wait until it cools, pour into a glass bottle. Store in the fridge. Shelf life in the fridge is only 3-4 days. Betel leaves spoil quickly and change flavor.

Making Soy Milk

Ingredients for 1.5 Liters

Yellow soybeans 250 grams, choose whole, clean, wrinkle-free ones. Enough water for soaking. Water for blending & boiling about 1.5 - 1.7 liters in total. Pandan leaves 3 pieces, tied in a knot to remove the beany taste & for fragrance. Ginger 2 segments, smashed to remove the beany taste, optional. Sugar: 4-6 tablespoons of granulated or palm sugar to taste, can skip if you want it plain. Salt: 1/2 teaspoon to balance flavor & add savoriness. How to Make: Step 1. Soak & Peel the Skin. Wash the soybeans, soak in water for 8-12 hours or overnight. Soybeans will swell 2-3 times. Change the water 1-2 times to prevent smell. Once swollen, squeeze the soybeans by hand in water. The skins will peel off & float. Discard the floating skins. Repeat 3-4 times until 80-90% of the skins are removed. Soybean skins can cause a beany taste & make you gassy. Must be removed as much as possible. Step 2. Drain the peeled soybeans. Blend the soybeans with 1 liter of water. Not all at once. Blend in stages 2-3 times until smooth. The smoother it is, the more juice comes out, and the soy milk will be thicker. Step 3. Strain the blended mixture using cheesecloth/tofu cloth. Squeeze with all your strength until the pulp is dry. Don't throw away the pulp; it can be used for okara/soybean pancakes. Strain 2 times if you want it super smooth and

no sediment. Step 4. Boil the strained soy milk in a thick pot. Add another 500-700ml of water so it's not too thick. Add pandan leaves + crushed ginger + salt. Boil on medium-low heat. Stir continuously from the bottom so it doesn't burn or curdle. After it boils, lower the heat. Simmer for 20-25 minutes. Remove the foam that appears on the surface. Don't leave it unattended, soy milk can overflow and burn easily. Step 5. Add flavor. Pour into sterilized glass bottles. Store in the fridge. Shelf life in the fridge is 3-4 days.

RESULTS AND DISCUSSION

In a training activity on making health drinks like in Picture 1, it is part of the Agricultural Product Processing Technology course for the Agrotechnology study program at the Faculty of Agriculture, UNISKA, Kediri. Students in this major chose to practice making traditional herbal drinks and soy milk, which are popular among the community for boosting immunity and naturally treating certain illnesses. The practice ingredients were obtained from the family medicinal plant garden, including turmeric, ginger, fingerroot, lemongrass leaves, and pandan, while rice, tamarind, and soybeans were bought from the traditional market. Maintaining good health is very important to protect the body from degenerative diseases such as heart disease, gout, cholesterol, cancer, diarrhea, allergies, inflammation, stomach problems, and others. The Practicum Supervisor is Nunuk Helilusiatiningsih, who provides skill training to students so they can create new innovations in developing MSMEs in their local area. The herbal medicine in Figure 1 is a traditional medicine that is popular in Indonesia. Various herbal drinks like beras kencur, turmeric tamarind, temulawak, red ginger, and kunci suruh are favored by the community because their benefits are well proven. In addition, the basic ingredients of these herbal drinks also include several rhizomes such as turmeric and ginger, which have distinctive colors, tastes, and aromas, and can increase the effectiveness of beras kencur and other herbal drinks (Nuraeni et al., 2022). Nowadays, both urban and rural communities widely use them for daily needs. Modern medicine is relatively expensive, and not everyone can afford costly treatments for certain illnesses. As a solution, many people turn to alternative herbal remedies for treating degenerative diseases.



Figure 1. Results of The Health Drinks Making Training Activities

Figure 2 shows that turmeric herbal drink is one of the main herbal medicines that contain secondary metabolites of phenolic compounds. Many studies explain that the levels of phenolic acids, polyphenols, and flavonoids, which fall into the phenolic group, can contribute to antioxidant activity (Do et al., 2014; Nurfitriah et al., 2021). This is supported by previous research showing that increasing the concentration of turmeric rhizome in turmeric sour herbal drink can boost antioxidant activity along with an increase in total phenolic content. The method of processing and the ingredients used in herbal drinks can change their effectiveness. Boiling is a common process in herbal drink preparation (Mulyani et al., 2014). According to Purba, 2019, the total phenol content in ethanol extract of turmeric rhizome is 229.0894 mg GAE/g extract. This herbal medicine is one of the traditional herbal concoctions that still survives in Javanese society and is part of ethnomedicine studies. The function of kunyit asam herbal drink is as a traditional mix that helps regulate menstruation, improve digestion, reduce stomach acid, act as an antibiotic, refresh the body, and get rid of acne (Jalill, et al., 2021)



Figure 2. Turmeric Tamarind Drink



Figure 3. Soy Milk Drink

In Figure 3, it shows soybean milk processing. The importance of community service activities in the form of training is to raise public awareness about the importance of milk for fulfilling nutrition and achieving health. Drinking milk is very good, and getting into the habit of consuming milk, including soybean milk, is especially beneficial for school children at the PAUD, TK, and SD levels and is also good for adults to drink. The benefits of drinking soybean milk are that it is a

healthy drink, rich in protein and natural fiber, made from soybeans with very high protein content (Juliawati, et al., 2022). The nutritional content of soybean milk is comparable to cow's milk. The household-scale industry producing soy milk already has many MSMEs operating to improve family welfare (Suarjana and Sri, 2019). Soy milk is a beverage made from soybean extract. It's called "plant-based milk" because its protein and nutrition are similar to cow's milk, but without lactose and cholesterol. Main Benefits of Soy Milk: 1 glass (240 ml) contains 7-8 grams of protein, equivalent to 1 egg. Great for muscle building and for vegans. Lactose- and cholesterol-free. Safe for those with lactose intolerance, cow's milk allergy, or high blood pressure/cholesterol. Source of isoflavones/phytoestrogens—compounds similar to estrogen that help maintain bone health, skin health, and hormonal balance. For women, it can reduce menopause symptoms. Isoflavones help ease hot flashes, night sweats, and mood swings. That's why in Japan many mothers drink soy milk every day to maintain bone health. Soy milk contains calcium and isoflavones that help with calcium absorption, which can prevent osteoporosis, especially if you choose calcium-fortified soy milk. Your skin becomes more supple because antioxidants and isoflavones help collagen production, making your skin more moisturized and reducing wrinkles.



Figure 4. Suruh Key Drink

In the next activity, the making of kunci suruh herbal drink can be seen in Figure 4. This health drink is made from a combination of suruh leaves and kunci rhizomes, which are ingredients rich in antioxidants. The aroma of this herbal drink is very distinctive and is good for treatments that are anti-inflammatory, pain-relieving, and help eliminate unpleasant body odor while boosting the immune system, with antimicrobial properties, and more. Kunci rhizomes are also often used in clear vegetable soups with spinach, sweet corn, carrots, gambas, and fresh basil, making them good for consumption by children to adults. Suruh leaves are also good for mouthwash and treating itching. Kunci suruh herbal drink is a mixture of fresh ingredients from kunci rhizome (*Boesenbergia pandurata* (Roxb.)

Schlecht) and betel leaves (*Piper betle* L.), which contain compounds that can act as antidiabetic agents (Andrie et al., 2014).



Figure 5. Rice Kencur Drink

Beras kencur herbal drink is very beneficial for boosting the immune system as shown in Figure 5. According to Zulkarnaen et al., (2024), the flavonoid and phenolic compounds in beras kencur play a role in protecting against attacks from the environment, such as free radical attacks that can cause various diseases. Beras kencur is one of the most popular traditional Javanese herbal drinks because it tastes good and has many benefits. Its main ingredients are rice, kencur, palm sugar, ginger, and tamarind. The most common benefit felt is an increase in appetite, since kencur is known to stimulate digestive enzymes. Other benefits include relieving colds and body aches. Kencur warms the body, and ginger makes you feel more fit. Perfect to drink when your body is tired or after getting caught in the rain. Kencur can also relieve coughs and soothe the throat. The warming effect from kencur and ginger can help loosen phlegm and make your throat feel more comfortable, provide energy, and boost your immunity.

CONCLUSION AND RECOMENDATION

Socialization and training on making health drinks are really beneficial for students doing their practicum, as it adds skills and knowledge in agribusiness. Health needs to be taken care of properly to boost the immune system. Natural ingredients like turmeric jamu, kunci suruh, kencur rice, and soy milk are drinks that contain remedies for various illnesses if consumed regularly according to needs and dosage.

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