

TRAINING HALAL SLAUGHTERERS IN SAMARINDA ON KNIFE SHARPENING WITH WHETSTONE AND SHARPENING STEEL

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ABSTRACT

Slaughtering animals is a crucial stage in the food production chain, especially for Halal meat products that adhere to animal welfare standards. Proper knife sharpening techniques are essential in minimizing pain and stress for animals during the slaughtering process. This study reports on a training program in knife sharpening techniques using a combination of whetstones and sharpening steel conducted in Samarinda. The training involved 9 Halal slaughterers from several mosques and markets in Sambutan District, Samarinda. The method aimed to enhance the participants' skills in optimal knife sharpening, forming a blade edge that meets the animal welfare-based meat-cutting industry standards. The training results indicated that 75% of participants successfully applied the sharpening techniques that were taught, producing convex-shaped blade edges that were more efficient in the slaughtering process. This success positively impacted the implementation of animal welfare standards and the resulting meat quality. In conclusion, the training effectively improved Halal slaughterers' skills and significantly impacted the implementation of animal welfare standards in Samarinda. Support from the Samarinda City Food Security and Agriculture Office, the Animal Husbandry Department of Mulawarman University, and the Halal Slaughtering Da'wah Organization of Samarinda City played a crucial role in the success of this training.

Keywords: Animal slaughter, Knife sharpening techniques, Animal welfare, Training, Halal.

INTRODUCTION

The animal slaughter process is an essential stage in the food production chain, especially in the meat industry, which produces meat and meat products with Halal standards. (Agbeniga and Webb 2012; Aghwan et al. 2016a; Zulfakar et al. 2014). This process not only aims to meet human food needs but also must pay attention to animal welfare aspects, which are part of the implementation of religious slaughter methods or Halal slaughter methods based on animal welfare (Ehsan) (Barrasso et al., 2022; Wibowo et al. 2019, 2022). Animal welfare during the slaughter process includes reducing the pain and stress experienced by the animal (Blokhuys et al., 2019; Wibowo et al., 2023). One crucial aspect affecting animal welfare is the knife sharpening technique used during slaughter.

Animal welfare has become a global issue receiving increasing attention from academic circles, industry, and the general public (Bøsterud, 2019; Fuseini et al., 2017; Zulkifli, 2013). The World Organization for Animal Health (OIE) and various other agencies have established standards and guidelines to ensure that animals are treated humanely throughout their lives, including at slaughter. (Ferguson and Warner 2008;

Gibson et al. 2015; Gregory et al. 2009). Implementing animal welfare standards is essential from an ethical perspective and has practical implications (Borell et al., 2007; Gregory et al., 2008; Hayes et al., 2015). Animals treated well tend to produce better-quality meat, which can increase economic profits for livestock farmers and meat producers.

A sharp knife is one of the most essential tools in the animal slaughter process (Aghwan et al., 2016b; Bozzo et al., 2020; Grandin, 2020; Imlan et al., 2020). Dull knives can cause animals to experience longer pain and higher stress, which is contrary to animal welfare principles and will affect the quality of meat produced after slaughter. (Imlan et al. 2020; Mach et al. 2008). Therefore, knife sharpening techniques ensure an efficient and humane slaughter process. Effective knife sharpening involves understanding the different types of knives, optimal sharpening angles, and proper sharpening techniques (Wibowo et al., 2019). In addition, workers involved in the slaughter process must be specially trained to use knives in the correct way to minimize animal suffering. Research has shown that the use of sharp knives can reduce the time required to desensitize an animal, thereby reducing the pain and stress the animal experiences during the slaughter process. (Fuseini et al. 2016; Gibson et al. 2015; Wibowo et al. 2019, 2023).

Based on the results of observations in 2020 in Samarinda City, it was reported that of 142 Balinese cattle slaughtered using the halal method without stunning, only 2.8% or four lost consciousness after slaughter (Wibowo & Suhardi, 2022). On the other hand, as many as 57% percent of Bali cattle were still conscious, which was indicated by body movements or attempts to stand up after slaughter (Wibowo et al., 2024). Also, as many as 21.1% or thirty cows still showed rhythmic respiratory activity after slaughter. This phenomenon occurred, one of which was the less-than-optimal sharpness of the slaughter knife used (Wibowo et al., 2024).

Although effective knife sharpening can improve animal welfare during slaughter, several challenges must be overcome. One of the main challenges is the need for more knowledge and skills among slaughter workers or professionals regarding correct knife sharpening techniques. Based on the conditions above, through a community service activity program, a training program was carried out on knife sharpening techniques using a combination of whetstones and sharpening steel for Halal slaughterers in several mosques in the Samarinda City area.

RESEARCH METHOD

The community service implementation process was carried out on June 6, 2024, through training on knife sharpening techniques using a combination of whetstone and steel sharpening methods. The total number of participants who took part in the training was nine people, involving participants as well as several parties from other agencies, including the Department of Agriculture and Food Security of Samarinda City, mass organizations (mass organizations) DSH (Preaching Halal Slaughter) of Samarinda City and participants from several mosques in the area. Makroman District, Samarinda

City, serves as a Halal Slaughterer, including poultry (chicken) slaughterers in the market area (Pasar Segiri) of Samarinda City.

The implementation begins with a preparatory training stage and direction from instructors consisting of practitioners and academics who focus on or are involved in the animal slaughtering industry and meat production with Halal standards. In this initial stage, the participants receive direction and applicable theoretical material regarding knife sharpening techniques using whetstone and advanced sharpening techniques using Sharpening Steel. The process of knife sharpening techniques using stones can be seen in (Figure 1.), and advanced techniques for sharpening knives using Sharpening Steel / Honing tools (Grooved and Smooth Steel) can be seen in (Figure 2). The flowchart of this training activity can be seen in (Figure 3).

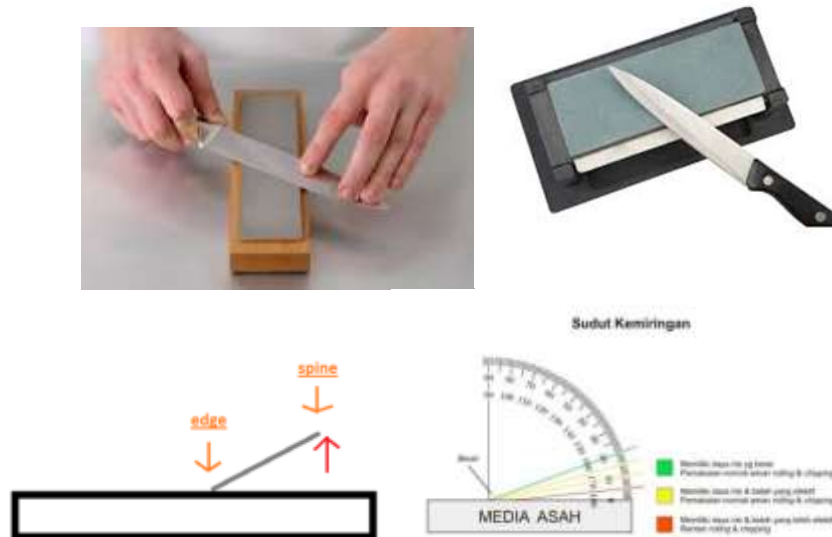


Figure 1. Slaughter Knife Sharpening Technique Using a Whetstone (Grit 1,000/6,000).

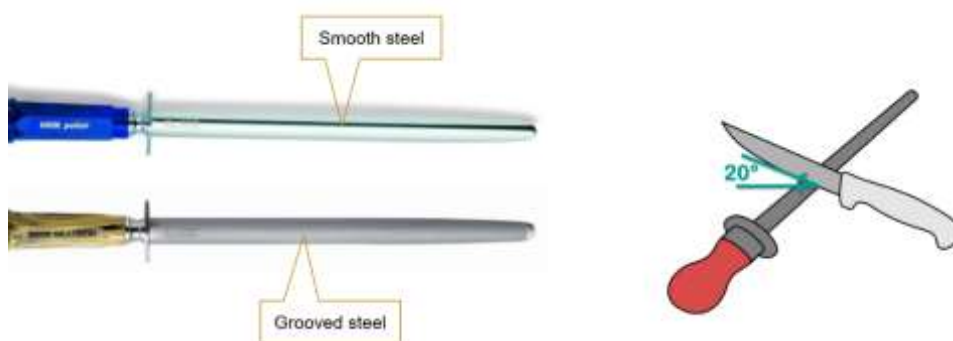


Figure 2. The sharpening technique for the slaughter knife uses sharpening steel/honing (grooved and smooth steel).

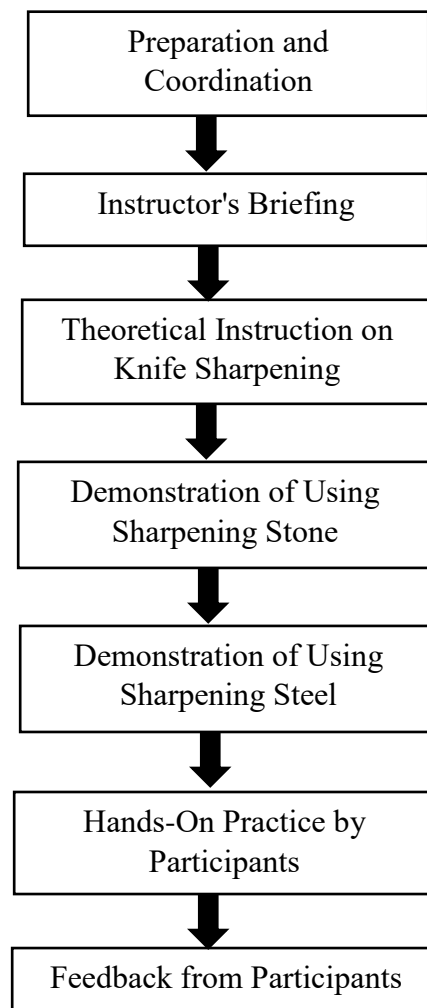


Figure 3. Flowchart of training activities

RESULTS AND DISCUSSION

Training activities on knife sharpening techniques using a combination of whetstone and Sharpening steel methods were conducted at the Sabiqul Amin Mosque, Sambutan District, Samarinda City (Figure 4). This training and community service activity is supported by the Food Security and Agriculture Service of Samarinda City, the Department of Animal Husbandry, Faculty of Agriculture, Mulawarman University, KALTIM, and the DSH-Samarinda City Mass Organization (Halal et al.). The aim of carrying out this training activity is to improve the skills of Halal slaughterers for both large ruminants (cows) and small ruminants (goats) as well as Halal poultry (chicken) slaughterers who come from mosque administrators in the Sambutan District, Samarinda City and Halal slaughterers for poultry. (Chicken) from the main market area (senior market) in Samarinda City. The number of participants or participants who took part in this training activity was 20 (twenty) participants from mosques in the Sambutan District area, and 15 (fifteen) participants were Halal slaughterers poultry in the primary market area (segiri market) Samarinda City (Figure 5).



Figure 4. Place of Training and Attendees from Mosque Management and Halal Poultry Slaughterhouse (Segiri et al.).

In this initial process or stage, the instructors and facilitators started the event by providing or delivering knife sharpening techniques using the sharpening method on a whetstone with a surface roughness level (Grit) of 1,000-6,000, where the material focused on the formation of the blade using the sharpening technique on a stone so that The knife blade can be shaped by animal welfare-based animal slaughter industry standards, namely a convex shaped blade (Figure 5). The purpose of shaping the blade into a convex shape is to facilitate the process of slaughtering animals so that it can more quickly cut off several blood vessels (Carotid arteries and Jugular Vein) as well as air passages (Trachea) and food passages (Eosophagus) so that the slaughtered animal quickly loses consciousness and reduces post-slaughter pain. Grandin (2016) stated that knife sharpness plays a vital role in animal welfare during slaughter, and using appropriate sharpening methods, such as a combination of a whetstone with sharpening steel, can improve cutting results and reduce animal suffering. This is followed by advanced knife sharpening techniques using Sharpening steel/Honing, which aims to remove unwanted excess metal residue on the blade (Burr/wire edge) (Figure 6) to reduce the sharpness of the knife during the process of slaughtering or slaughtering animals. According to Zerbino et al. (2020), this step is crucial to ensure that the knife remains sharp and effective in the slaughter process, preventing a reduction in cut quality, which can result in less efficient slaughter.

CONVEX



Figure 5. Standard Knife Blade Shape for the Animal Slaughter Industry (Convex Shape)

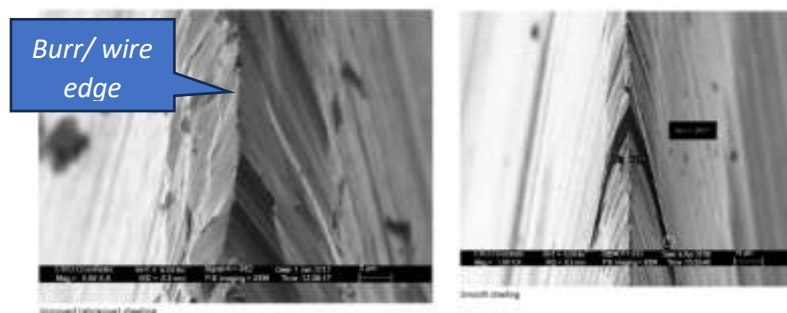


Figure 6. Burr/Wire Edge Removal Using Sharpening Steel/Honing (Kumar et al., 2023; Verhoeven, 2004).

After the presentation of the material, the participants continued with a question and answer session and practice regarding knife sharpening techniques using whetstones and Sharpening steel/Honing. Of the participants who attended, 75% could practice knife and sharpening techniques. This can be seen from the resulting blade, which forms a convex shape. This success has positively impacted Halal slaughterers and can directly increase the number of animal welfare practices. Both Ruminant and non-ruminant animals (poultry) use Halal slaughter methods in slaughtering animals.

ACKNOWLEDGEMENT

The success of this training activity is the result of contributions from the Food Security and Agriculture Service of Samarinda City, the Animal Husbandry Department of Mulawarman University, and the Samarinda City Slaughter Da'wah Organization. This activity aims to provide knowledge and skills about knife and sharpening techniques using a combination of sharpening stones, sharpening methods, and steel to Halal slaughterers in Sambutan District, Samarinda City.

CONCLUSION

With the increasing demand for food products of animal origin based on or following Halal standards in the production or supply process, the process of slaughtering or slaughtering animals has become crucial from a Halal and animal welfare perspective. Failure in the slaughtering process due to less than optimal sharpening and sharpening of the knife can cause failure in the slaughtering process. Several previous studies have reported cases of the false aneurysm, namely the blockage of several blood vessels, such as the jugular vein and carotid arteries, so that the animal remains in a state of being conscious and experiencing pain due to the blood coming out is not optimal so that after death and the process of changing from muscle to flesh it becomes less than perfect due to a large amount of blood and blood pigment (hemoglobin) still being deposited in the muscles. Training in knife sharpening and sharpening techniques for Halal slaughterers will significantly impact the implementation of animal welfare in the animal slaughter process so that safe, healthy, whole, and halal (ASUH) animal nasal panga products can be achieved.

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