

CHAPTER I INTRODUCTION

1.1 Background

Rabbits in Kuala Lumpur is an animal protein that is consumed by local people and besides it is also used as a companion as a pet. In this case, Kuala Lumpur has a tropical rainforest type of climate (Abdul R. and Ismail, 2008), which is hot and sunny with abundant rainfall and an average rainfall of 2,500 to 3,000 mm (98-118 in) rainfall per year. This situation supports the existence of rabbit farms with superior breeds as well as favorable climate. In the development of rabbit farming, there are still many diseases that attack rabbits, one of the often found diseases in rabbits are *scabiosis* with varying degrees of severity and prevalence. Based on Wardhana et al., (2006) *Sarcoptes scabiei* can attack the ears, skin, limbs, and corners of the mouth and cause to ensure difficulties in eating and even leads up to death, and it's possible to cause economic losses by decreasing feed conversion, and also the usage of drugs to overcome *scabiosis*, especially acaricides, roborantia such as vitamin A, minerals, and to cope with secondary infections such as anthelmintics, antibiotics, and fungicides, meanwhile the production costs increases and ultimately lowers the gain (Wong et al., 2015).

It is necessary to study the prevalence and severity undergone by rabbits with *scabiosis* in Kuala Lumpur because these diseases are hard to control and many factors that influence include a geographic factor that plays role in the incidence of parasitic diseases as tropical diseases whereas as a emerging and re-

emerging diseases that can threaten human and animal health globally (Alasaad et al., 2013) and the transmission is widespread and will be pressing huge economic *Scabiosis* worldwide is reported to be around 300 million cases per year (Hengge et al., 2006), but limited research has been performed on the prevalence of *scabiosis* in Kuala Lumpur, supposedly there is no data exactly recorded the prevalence of *scabiosis* in Kuala Lumpur. Dying livestock losses due to *scabiosis* in patients varies greatly, depending on predisposing factors and other factors that are involved. Deaths that form due to *Scabiosis* are often caused by malnutrition (Radi, 2004).

Rabbits with *scabiosis* have a fairly high mortality rate ranging from 15-40%, this can occur starting from birth to weaning due to the disease (Masanto and Agus, 2011). Factors that influence diseases are poor sanitation (Lastuti et al., 2018). *Scabiosis* is a skin disease caused by *Sarcoptes scabiei*, which is included in the class of Arachnida (Kuizheng et al., 1994). These mites are very small and can only be seen with a microscope or microscopic. *Scabiosis* are often called itchy mite (McCarthy et al., 2004). This disease can easily transmit from animals to animals, animals to humans, and vice versa. *Scabiosis* easily spread either directly or indirectly, it can also spread quickly to a community of animal as that they live together so that the treatment must be carried out simultaneously and comprehensively to the infected rabbits and the environment in the community that has *Scabiosis* (Raji et al., 1997) because if it is carried out individually, it will easily be re-contracted.

Scabiosis is also said as an infectious skin disease with clinical symptoms of itching and a skin rash, which are caused by sensitization (a type of “allergic” reaction) to the proteins and feces of the parasite. Severe itching (pruritus), especially at night, is the earliest and most common symptom of scabies. A pimple-like (papular) itchy (pruritic) “scabies rash” is also common. Itching and rash may affect much around the face, neck ears around the body (Johnston and Sladden, 2005). *Scabiosis* causes symptoms of discomfort because it gives rise to lesions that can cause to increase in the mortality rate (Bornstein and Samuel, 2001). Symptoms of discomfort from *scabiosis* are caused by ectoparasites. Ectoparasites are a parasitic organism that lives on the surface of the host's body, sucks blood or foraging on the surface of the hair, and fur (Lastuti et al., 2018). This ectoparasite is a sporadic epidemic and endemic (Damriyasa et al., 2004). At present of term, *Scabiosis* means skin lesions arising from mite activity of the feeding behavior of larvae and nymphs of mites that causes irritation, hypersensitivity reactions, inflammation, with hyperkeratosis, seborrhea or inflammation resembling a scaly skin, hair loss and alopecia or most often appears around the face, neck, and ears of the rabbit (Eshar, 2010).

Besides, the analyzed effects of environmental climate factors on this incidence in Kuala Lumpur has the major factor in increasing the severity of *Scabiosis* whereas statement supports the prevalence and severity of *scabiosis* in rabbits are slightly high this is why it is necessary to conduct a study on the rabbits in Kuala Lumpur and this, can be used as a prevention of treatment according to the way best and true and the expected incidence to be controlled.

1.2 Problem Statement

Based on the background of the above-mentioned problem, the problem statement can be stated as follows :

- 1) How much is the prevalence of *scabiosis* on rabbits in the city of Kuala Lumpur, Malaysia?
- 2) How is the severity level of *scabiosis* on rabbits in the city of Kuala Lumpur, Malaysia is measured by a scale of low, high, and severe?

1.3 Theoretical Basis

Scabiosis disease affects nearly all types of pets around the world such as goats, sheep, pigs, buffalo, cows, dogs, rabbits, cats, and camels (Soulsby, 1986). *Sarcoptes scabiei* has much following the landlord *Sarcoptes scabiei* var. *humani* in humans, *S. scabiei* var. *canis* in dogs, *S. scabiei* var. *suis* in pigs, *S. scabiei* var. *ovis* on sheep, *S. scabiei* var. *caprae* on goat, *S. scabiei* var. *equi* on horse, *S. scabiei* var. *bovis* in cattle. This is a type of mange mites commonly found on dogs and pigs (Lastuti, 2008).

Scabiosis is a skin disease that is a zoonosis with a great cause of irritation and symptoms as well as symptoms of *scabiosis* are crusty and ensuring disturbing activities resulting in a decrease in the quality of meat and the skin. (Thomas et al., 2015). *Sarcoptes scabiei* pierce the skin and suck the lymph fluid in the epidermis, which causes irritation and symptoms of severe itching finally formed a thick scab on dry skin. So skin thickening due to their keratinization and their growth tremendously woven the binder and cause the hairs to lose or fall out. The examination must be carried out scrapping to scab the crust up to get as

Sarcoptes scabiei. *Sarcoptes scabiei* will be inside/under the skin by forming the tunnels, then examined microscopically by making native preparation of the results with the scrapings (Soulsby, 1986).

The weather almost everywhere in Malaysia is almost hot and humid. The temperature variations between the days and nights rarely are in the range of -9.4°C (15.1°F) to -6.7°C (19.9°F) irrespective of the time of the year. The average high temperatures reach 33°C (91.4°F) at the peak of April, while the average low temperature is at its lowest of 23.4°C (74.1°F) in January. Maximum daily temperatures hover between the 32.2°C (90°F) and 35°C (95°F) range most humidity, and sunshine hours showed a positive relationship with the infestation of mites. (Chosidow, 2006).

1.4 Purpose of Research

- 1) To study the prevalence of *scabiosis* on rabbits in Kuala Lumpur, Malaysia.
- 2) To study the severity/degree of infection of *scabiosis* on rabbits in Kuala Lumpur, Malaysia.

1.5 Benefits of Research

The benefits to be gained from the results of this study are expected to provide information in the form of data incident infection with *Sarcoptes scabiei* that causes *Scabiosis* in rabbits and can be used as the basis for efforts to control *Scabiosis* to determine the severity of the rabbits in the City of Kuala Lumpur, Malaysia which can later be used as the basis of treatment according to way is good and true.