Reproductive Disorder in Cows:
Data Analisys of UPSUS SIWAB in Lima Puluh Kota District, 2017

Eka Oktarianti[1]*

[1]Animal Husbandary and Animal Health Service Lima Puluh Kota District
*Corresponding author's email: eka.oktarianti0606@gmail.com

INTRODUCTION

The Ministry of Agriculture has declared Upaya Khusus Sapi Indukan Wajib Bunting (Upsus Siwab) to optimizing the potential of breeding cows and increase population (Ministry of Agriculture 2016). The success of Upsus Siwab program depends on a number of areas, namely land availability, decreased reproductive disorder, availability of frozen semen, availability of liquid N2, competent inseminator, and rescue of productive females (Ministry of Agriculture 2016). Animal health plays an important role in supporting the success of population increase [1], so that reproduction disorder activities are among the activities that contribute to the success of the Upsus Siwab program.

The implementation of reproductive disorder in Upsus Siwab is reported through the Integrated National Animal Health Information System (ISIKHNAS). The data can be a source of information to assess the performance results of animal health officers and to know the proportion of cured and pregnant cows after reproductive disorders are handled.

This paper aims to study the incidence of reproductive disorders on cows in Lima Puluh Kota District in 2017. The results of these studies are expected to serve as a basis for policy making for subsequent activities.

MATERIALS AND METHODS

Data obtained from ISIKHNAS report no. 384 with details of all reproductive disorders, treatment, case development, recovery rate, artificial insemination (AI) after treatment and pregnancy examination activities conducted in Lima Puluh Kota District from January to December 2017.

The data is processed using Microsoft Excel to calculate the number of cows that has been conducted examination and treatment of reproductive disorder in each sub-district in Lima Puluh Kota, as well as processing report of case development, recovery rate, artificial insemination and related pregnancy examination descriptively and frequency distribution.

RESULT AND DISCUSSION

A number of 1507 cows have been treated for reproduction disorder in 10 districts in each sub-district are presented in Table 1.

Data of artificial insemination (AI) in Kabupaten Lima Puluh Kota in 2017 is 17178 acceptors, then the prevalence of reproductive disorder amounted to 11.4% (1507/17178). 1507 cows were treated by a veterinarian for reproductive disorders, and the incidence rates (%) were: persistent corpus luteum (CLP) 5.6%, endometritis 6.6%, ovarian hypofunction 52.2%, silent heat 32%, follicular cystic 2.3%, luteal cyctic 0.9% and ovari cystic (5/1507).

Ovarian hypofunction can be caused by a lack of feed of both quality and quantity, poor nutritional balance, suffering from acute and chronic diseases such as intestinal worms, extreme weather [2]. Silent heat often occurs in postpartum cow, due to nutritional deficiency, B-carotene, P, Co, Cobalt, and low body weight. In this condition, the ovarian activity is normal but the oestrus sign is not clear. Endometritis is inflammation of the endometrium, the result of a bacterial infection primarily through the vagina and cervix that contaminates the uterus during partus [3]. Endometritis can also be caused by partus abnormalities such as abortion, twinning, dystocia, and retained placenta (Ball and Peters, 2004), resulting in delayed uterine involution and decreased reproductive performance by impairing fertility. CLP is caused due to disruption to prostaglandin production due to infection of the uterus and inflammation of the tissues that would inhibit the production and release of prostaglandins, so the corpus luteum will not lysise as a result of an ever high progeteron level and will lead to anestrus (Noakes *et al.* 2009).

Of the 1507 cows affected by reproductive disorders, only 67.7% (1013/1507) reported case development. The recovey rate is only 36.5% (550/1507). The recovery rate in sub-district are presented in Table 2.

Table 1. Results of examination of reproductive disorders

Sub-district	CLP	Endo metritis	Hipofunction of ovarian	Nimpo many	Pyometra	Silent Heat	Folikuler Cyst	Luteal Cyst	Ovarian Cyst	Total
Akabiluru	21	8	17			95				141
Bukit Barisan	3	4	94							101
Guguak	13	12	138	1		63	29	11	1	268
Gunung Mas		5	4							9
Harau		4	186			16				206
Lareh Sago Halaban	8	9	86			116				219
Luhak	7	41	136			71				255
Mungka	3	5	40	1		5	6	3		63
Situjuah Limo Nagari	29	11	55			116			3	214
Suliki			30						1	31
Total	84	99	786	1	1	482	35	14	5	1507

Table2. The recovery rate of reproductive disorder

Sub-district	Reproductive disorder	%	Reported case dev.	%	Recovery rate	%	AI	%	Per rectal ex.	%
Akabiluru	141	9.4	139	98.6	28	19.9	13	9.2	2	1.4
Bukit Barisan	101	6.7	32	31.7	32	31.7	4	4.0	4	4.0
Guguak	268	17.8	264	98.5	190	70.9	32	11.9	16	6.0
Gunung Mas	9	0.6	9	100.0	9	100.0		0.0	0	0.0
Harau	206	13.7	173	84.0	111	53.9	56	27.2	8	3.9
Lareh Sago Halaban	219	14.5	46	21.0	26	11.9	5	2.3	0	0.0
Luhak	255	16.9	66	25.9	38	14.9	23	9.0	1	0.4
Mungka	63	4.2	63	100.0	39	61.9	8	12.7	5	7.9
Situjuah Limo Nagari	214	14.2	200	93.5	56	26.2	69	32.2	17	7.9
Suliki Gunung Mas	31	2.1	21	67.7	21	67.7	1	3.2	0	0.0
Total	1507		1013	67.2	550	36.5	211	14.0	53	3.5

Cows that recovere from reproductive disorder and follow with artificial insemination (AI) were 211 (14%), and 53 (3.5%) of cows having been pregnant through perectal examination. The rate of recovery in cows affected by reproductive disorders may be influenced by many factors, such as cow health status, nutritional status or the quality of feed, oestrus detection by farmers, environmental health and officer factors. Not all of cows that overcome reproduction disorder has been reported the development of the case, due to the very wide area of factors and the limitations of officers.

Cows that recover from reproductive disorders are characterized by the emergence of symptoms of oestrus, especially in cows with diagnosis while CLP, endometritis, ovarian hypofunction, silent heat and luteal cyst. The length of time is based on the day that a cow needs to show signs of oestrus and the average AI is 74 days, and the follicular cyst is the fastest reproductive disorder case of an AI that is 18 days. The average day of cattles to be cured and in AI after reproductive disorder treatment is presented in Table 3.

Table 3. The average day of recovery and AI after reproductive disorder treatment

Diagnose	Recovery average (day)
CLP	56
Endometritis	52
Hipofungsi ovari	88
Nimpomania	299
Silent Heat	65
Sistik Folikuler	18
Sistik Luteal	73
Total	74

CONCLUSION
- The diagnosis of reproductive disorders in cows in Kabupaten Lima Puluh Kota are 52.2% (786/1507) ovarian hypofunction, 32% silent heat (482/1507), and endometritis 6.6% (99/1507).
- The report case development after treatment was 67.7% (1013/1507), with a recovery rate was 36.5% (550/1507).
- Artificial insemination (AI) after treatment was 211 (38.4%), and 53 (25.1%) cows were pregnant.

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