# Re: [International Seminar] Submission Acknowledgement

From: International Seminar “Management Strategy of Animal Health and Production Control on Anticipation Global Warming for Achievement of Millenium Development Goals”

(amdg@fkh.unair.ac.id)

To: rma_fispro@yahoo.com

Date: Wednesday, August 27, 2009 at 08:48 PM GMT+7

Dear participants

Hereby I would like to inform you about the preparations for International Seminar “Management Strategy of Animal Health and Production Control on Anticipation Global Warming for Achievement of Millenium Development Goals” at 3-4 June 2008 in Elmi Hotel Surabaya.

**For those who are doing Poster Presentation :**
The poster session will be held in front of Room 2th floor of of ELMI Hotel Surabaya. Please prepare the poster in A0 paper **(1200 mm X 850 mm)** and please bring the poster during registration time. Presenter should put their own poster in the space that the organizing committee provided.

**For those who are doing Oral Presentation :**
The plenary session for oral presentation will be held at Room 3th floor of ELMI Hotel Surabaya. Please prepare a power point presentation for 10 minutes presentation, please be advised that the organizing committee will be strict to the timetable and thus who unable to finish their presentation isnot the committee responsibilities.

We recommend the presenter to not make presentation more than 10 slides. Please send your presentation to the amdg@fkh.unair.ac.id before Mey 3, 2008 with the subject and document's name following this specific format :presentation_First author name. The schedule for oral presentation will be informed very soon.

I enclosed the conference schedule for your information. In case you have any question regarding the conference please do not hesitate to ask the organizing committee. Thank you very much and welcome to International Seminar “Management Strategy of Animal Health and Production Control on Anticipation Global Warming for Achievement of Millenium Development Goals” at 3-4 June 2008 in Elmi Hotel Surabaya .

Best regards

> 2008-04-25 7:45 GMT+07:00 International Seminar “Management Strategy of Animal Health and Production Control on Anticipation Global Warming for Achievement of Millenium Development Goals” at 3-4 June 2008 in Elmi Hotel Surabaya <amdg@fkh.unair.ac.id>:
>
> > Good morning Erma Safitri:
> >
> > Thank you for your submission, "Anti Prolactin Overcomes Heat Stress on Laying Hen" to International Seminar “Management Strategy of Animal Health and Production Control on Anticipation Global Warming for Achievement of Millenium Development Goals” at 3-4 June 2008 in Elmi Hotel Surabaya.
> >
> > With the online conference management system that we are using, you will be ableto track its progress through the editorial process by logging in to the International Seminar web site:
> >
> > Submission URL:
> > http://international.seminar.ac.id/ index.php/amdg/author/ submission/515
> > Username: Erm@safitri
> >
> > If you have any questions, please contact me. Please following us at our website and our social media platform to keep update for this up coming event. Thank you for considering this conference as a venue for your work.
> >
> > International Seminar “Management Strategy of Animal Health and Production Control on Anticipation Global Warming for Achievement of Millenium Development Goals” at 3-4 June 2008 in Elmi Hotel Surabaya

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International Seminar “Management Strategy of Animal Health and Production Control on Anticipation Global Warming for Achievement of Millenium Development Goals” at 3-4 June 2008 in Elmi Hotel Surabaya

Faculty of Veterinary Medicine
Universitas Airlangga Surabaya Indonesia

Faculty of Veterinary Medicine
University Putra Malaysia

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10th International Congress and International Conference of
Indonesia Society for Microbiology
Universitas Airlangga
Surabaya
Indonesia

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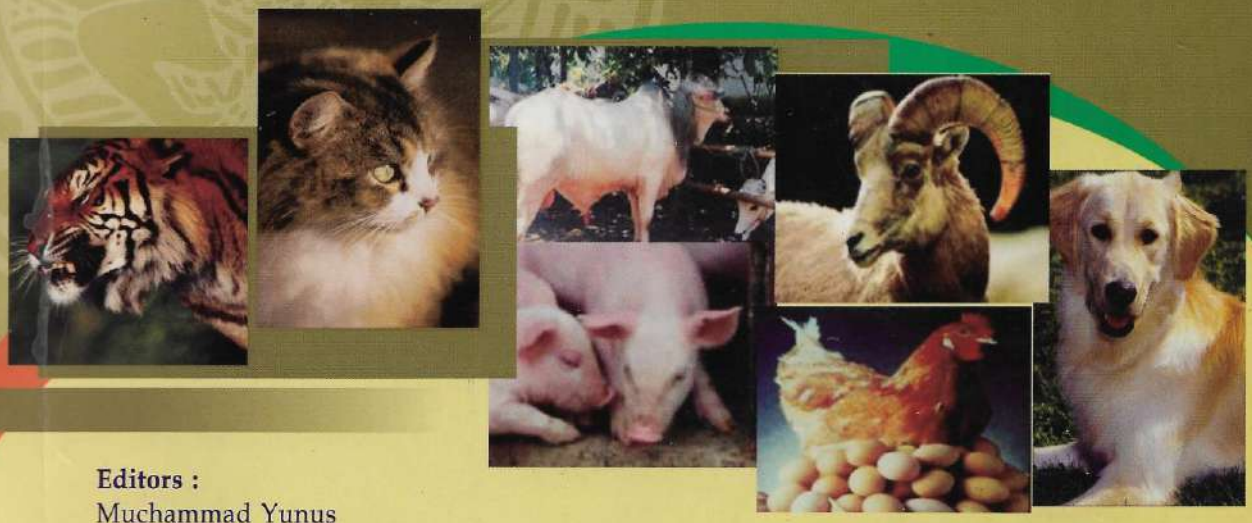
# MANAGEMENT STRATEGY OF ANIMAL HEALTH AND PRODUCTION CONTROL ON ANTICIPATION GLOBAL WARMING FOR ACHIEVEMENT OF MILLENNIUM DEVELOPMENT GOALS



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Muchammad Yunus
Suzanita Utama
Paridjata Westra
Lilik Maslachah
Epy Muhammad Luqman
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Sri Hidanah

**COLLABORATION OF :**

FACULTY OF VETERINARY MEDICINE
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**Universiti Putra Malaysia**
**2008**

PENERBIT DANI ABADI
Surabaya

Cetakan pertama 2008

## REPORT OF ORGANIZING COMMITTEE

Global warming is creating a threat of disaster in animal husbandry sector in the form of decreasing livestock productivity. From the aspect of animal health global warming has the opportunity to change the character of the existing diseases agent. It is possible that a mutation occurs and causes microorganisms those are normally non-infectious becomes infectious. On the other hand global warming has indirect impact on livestock feed industry. Further impact of global warming causes the availability of animal derived food products decrease and eventually affect human life due to the lack of animal derived food material supply qualitatively and quantitatively. One of the efforts solves the problem is with the performed International Seminar entitled "The Management Strategies of Animal Health and Production Control in the Anticipation of Global Warming for the Achievement of Millennium Development Goals" at 3-4 June 2008 in ELMI Hotel Surabaya. Ideas on the process and steps need to be taken to overcome the impact and to anticipate global warming presented in the International Seminar were compiled into this proceeding. It is expected that this proceeding could help in solving and anticipating global warming to achieve millennium development goals. Thank you is directed to all who participated in the International Seminar, especially the oral as well as the poster presenters.

Surabaya, 20 June 2008

Chairman of the committee
Dr. Koesnoto Supranianondo MS., Drh.

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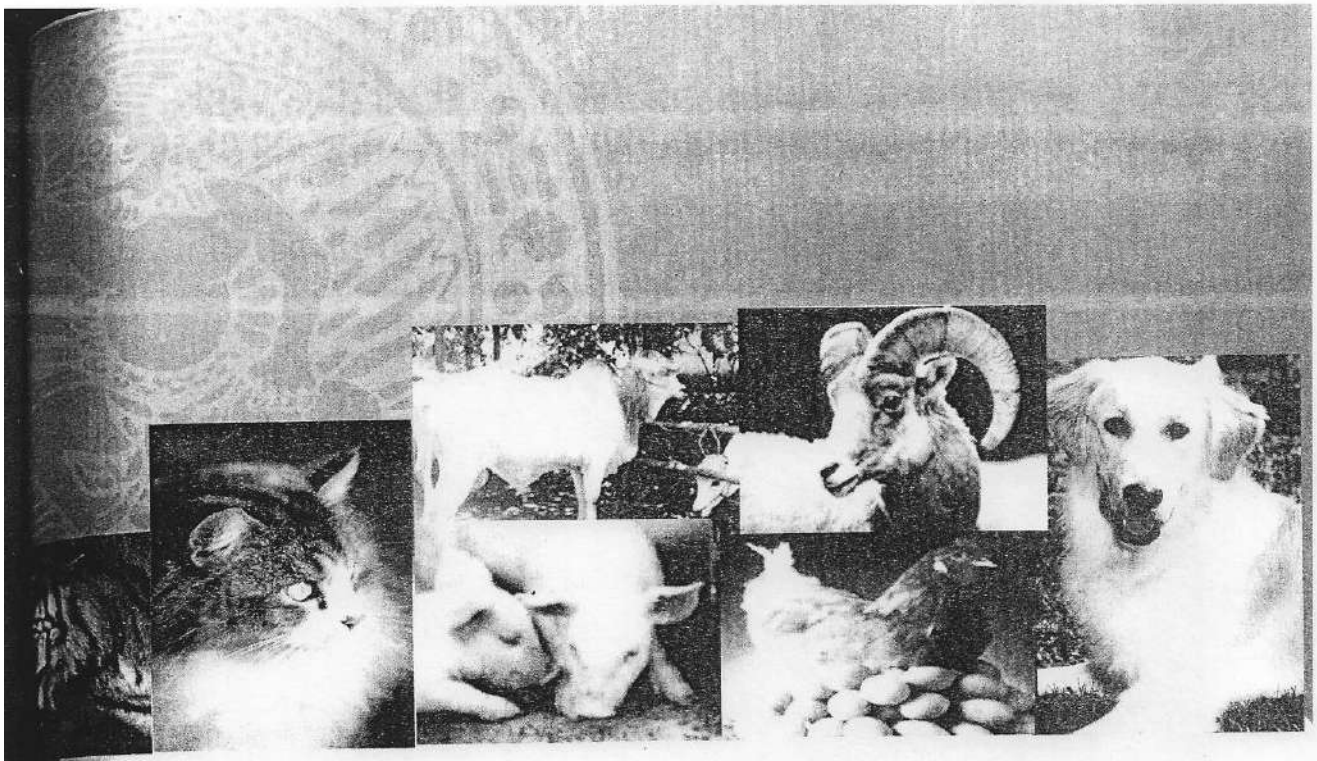
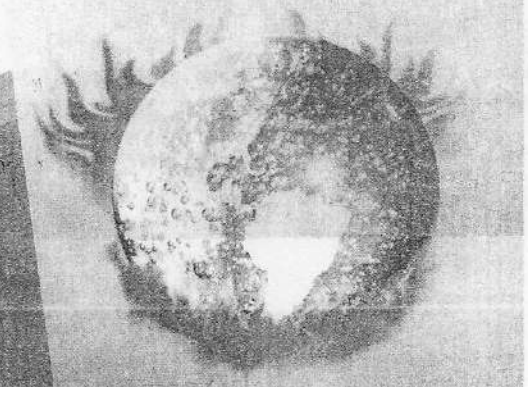
POSTER



# ANIMAL AND ENVIRONMENT



# ANTI PROLACTINE OVERCOMES HEAT STRESS ON LAYING HEN

**Erma Safitri[1], dan Wiwik Misaco[2]**

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2. Department of Veterinary Clinic, Faculty of Veterinary Medicine, Airlangga University

## ABSTRACT

Decreased of egg production on laying hens can provoked by environment heat stres. It caused by increased of blood prolactine concentration. The aim of this research was to study the effect of anti prolactine to avoid negative effect of heat stress on laying hen. Anti prolactine as exsternal antibody will be bound by prolactine as antigen like substance in the body. Neutralization of prolactine was achieved by the formation of anti prolactine – prolactine complex. The collected data were based on egg production using factorial design (6 x 4). Firstly, the observation time (1, 2, 3, 4, 5 and six weeks) done after treatment. Secondly, the dose of anti prolactine (0, 50, 100 and 200 µg) give intra muscular. The result showed that the utilisation of anti prolactine 100 – 200 $\mu g$ increased egg production significantly ( $P < 0.05$ ) since first week. There is an interaction between time and dose anti prolactine that influence the egg production ($P < 0.05$).

Keywords: Anti prolactine, heat stress, laying hen

## INTRODUCTION

Decreasing of egg production on laying hen when top production time and several times before or after top production time caused economically problem. Additionally, if egg production can't be reach according to standard egg production. The fact, if egg production decrease the hen must be suppressed faster before the of production time (Trobos, 2006).

Decreasing egg production not only caused by infection agent. One of the causes of non infection agent is heat stress. In additional to decrease egg production heat stress increasing FCR, and degradation consume of the food, degradation of size measure and quality of egg shell, and also degradation of body weight and endurance of hen's body.

Heat stress at hen laying is often became by ranch in tropic area, otherwise is immediately handled by the stress will degrade the appearance produce from hen direct interconnected production. Appearance degradation with the behavior change (behavior), fisiology and biochemistry in hen's body. The change needs the energy which by dozens, so that in the end can degrade the performance reproduce from hen.

Some effort done during the time by breeder of laying hen so that optimal productivity goals can be reached by doing repair of management of conservancy management followed by the gift antibiotic and also vitamin with an eye to increase of stamina and body endurance. But the use of antibiotic is usually done by regardless of what in fact becoming the root cause the egg productivity degradation so that as a result just have the character of without effect. Additionally, the side effects which can be generated by synthetic chemical compound are drug residue. Using Antibiotic which less precisely in the end can cause the happening resistant, and surely when used antibiotic from same faction continually. Others the lack of breeder knowledge about way of use antibiotic real correctly and precisely, making breeder tend to use the antibiotic with the different trademark but obstetrically is same drug.

Today still be done by development of alternative method to overcome the direct egg productivity degradation its organ goals without effect and also do not generate the side effects and do not cause the resistant, relative quickly in productivity cure lay eggs, accurate, cheaper and easy to done in the field.

Development of therapy Method at hens laying with degradation produce the effect of hot stress can be done with the cordage of protein prolactine where the protein physiologically will mount when hen experience of the stress (Turner and Bagnara, 1989 and Hafez, 2000). Require to be strived by the alternative way that is by doing gift therapy of anti prolactine, the mechanism is the happening of trying among antigen (protein prolactine) high in hen blood when experiencing of stress with the antibody (Anti Prolactine) when inseminated. This are development therapy for imunologis.

## MATERIALS AND METHODS

*Substance and Research Appliance.*

Research sample are 40 layer hens 19 month old with decreasing egg production because hot stress in cage (cage temperature between 24-35° C). Needed equipments: made battery cage from bamboo matting, spuite tuberculin. Substance used for the therapy is anti prolactine with the doses 50μg / ml, 100μg / ml, 200μg / ml, PBS 0.5ml (as control), cotton, alcohol. Forty laying hen in group and placed in battery cage at random become 4 treatments, with each treatment get 10 the following restating. P0 (Control): 10 laying hens with heat stress and without inoculation of anti prolactine, changed by PBS as much 0.5 ml. P1 : 10 laying hens with heat stress and inoculation of anti prolactine as much 50μg / ml. P2 : 10 laying hens with heat stress and inoculation of anti prolactine as much 100μg / ml. P3 :10 laying hens with heat stress and inoculation of anti prolactine asmuch 200μg / ml.

Evaluation of egg productivity after treatment was done every day, starting by the injection of anti prolactine until return normal productive. Comparison can be done between control and treatment. Attempt device used at this research is Complete Random Design (RAL). Then data was analyzed with ANOVA, further more if any differences was analyzed by Different test of Downright Reality (Beda Nyata Jujur/BNJ) 5% (Kusriningrum, 1989).

## RESULTS AND DISCUSSION

Anti Prolactine Bring Back the Productivity laying hen to Egg normally. Observation the egg production done every day after the laying hens was inoculated by anti prolactine through intra muscular in the chest area that is at the time of chicken to experience of the degradation produce the egg show the existence of product increase of egg till return normally. Mean of egg each week produce at table 1.

Table 1. Mean produce the Egg (each week) Starting Counted From Degradation Produce the Egg of week until 6 week

| Week | Σ Laying hens | Treatments | | | |
|---|---|---|---|---|---|
| | | Control | P1 (50μg) Anti Prolactine | P2 (100μg) Anti Prolactine | P3 (200μg) Anti Prolactine |
| 0 | 10 | 1.4 items | 1.4 items | 1.4 items | 1.4 items |
| 1 | 10 | 1.4 items | 2.1 items | 3.4 items | 5.1 items |
| 2 | 10 | 1.6 items | 2.1 items | 3.7 items | 5.5 items |
| 3 | 10 | 1.7 items | 1.7 items | 3.7 items | 5.6 items |
| 4 | 10 | 1.6 items | 1.8 items | 3.5 items | 5.5 items |
| 5 | 10 | 1.7 items | 1.9 items | 3.5 items | 5.4 items |
| 6 | 10 | 1.8 items | 1.6 items | 3.7 items | 5.6 items |
| Span | | 1.4-1.8 items | 1.4-2.1 items | 1.4-3.7 items | 1.4-5.6 items |
| Total | | 11.2 items | 12.6 items | 22.9 items | 34.1 items |
| Mean | | 1.867±0.152753 | 2.1±0.258199 | 3.81±0.843409 | 5.683±1.540254 |

Then the data was analyzed by ANOVA (Analysis of Variant) Factorial Device Pattern. The result show there are difference and having a meaning of ($p<0.01$) among group control and all group of treatment of variation doses and time depth after gift (week), and also there are have interaction among treatment group having a meaning of ($p<0.01$). Thereby hormone inoculation of anti prolactine with the doses 50$\mu$g, 100$\mu$g and 200$\mu$g to treatment can influence to increase of egg productivity of laying hens after experiencing of hot stress.

Furthermore if any differences was analyzed by Different test of Downright Reality (BNJ) 5%. Pursuant to (BNJ) 5% obtained by result that most having an effect on dose to product increase of egg from chicken is third treatment group with the dose inoculation 200$\mu$g, followed by the second treatment with the dose 100$\mu$g, while treatment group with the dose inoculation 50$\mu$g is equal to group control, not show of increase egg production. Analysis pursuant to (BNJ) 5% test at table 2. The kind of different dose of anti prolactine was seen at figure 1.

Pursuant to ( BNJ) 5% test obtained data that first week after treatment show the existence of product increase of egg followed at week hereinafter, that is second week until sixth week which produce its egg have returned normal according to number produce the hens laying. Analysis summary the (BNJ) 5% test at table 3 and graph of bar of product increase of egg at week after treatment by using anti prolactine 200$\mu$g/ml at Figure 2

Table 2. Mean And Standard Deviation of egg Production which Have Been injected by Anti prolactine with the Different Dose

| Treatment (Dose) | N | Mean ± Standard Deviation |
|---|---|---|
| Control | 70 | $1.60^{a} \pm 4.351$ |
| 50$\mu$g (P1) | 70 | $1.80^{a} \pm 2.881$ |
| 100$\mu$g (P2) | 70 | $3.27^{b} \pm 3.548$ |
| 200$\mu$g (P3) | 70 | $4.87^{c} \pm 4.035$ |

Pursuant the BNJ test 5% showed that existence of interaction between treatment (week) with the other treatment (obtainable dose) result of that [at] week to 1 with the dose 100$\mu$g Anti Prolactine has earned to show the existence of product increase of chicken's egg equal to 50-70%, while dose 200$\mu$g at first week, chicken have regained productive of egg normally equal to 70-85%. Summary of treatment interaction (time and dose) by Different test of Downright Reality (BNJ) 5% was shown at table 4. Production increase Graph egg as a whole at figure 3.

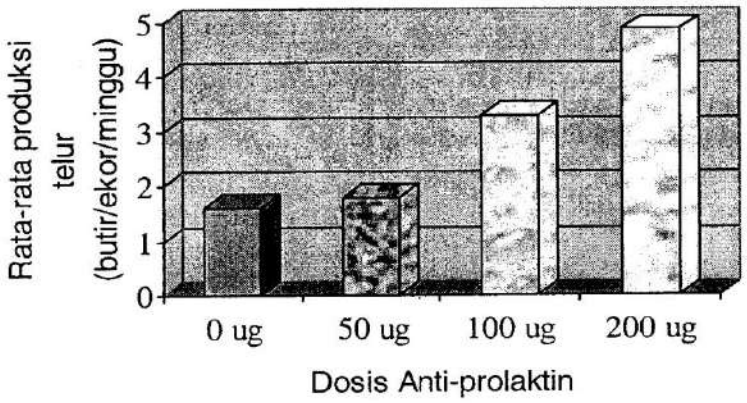


Figure 1: The egg production after inoculation by anti prolactine with the different dose at first week until sixth week.

Table 3. Mean And Standard Deviation Produce the Egg / week of During fourth week After Gift Anti Prolactine.

| Treatment (minggu ke-n) | N | Mean ± Standard Deviation |
|---|---|---|
| Week 0 (Control) | 40 | 1.40 [a] ± 0.496 |
| week I | 40 | 3.00 [b] ± 1.519 |
| week II | 40 | 3.23 [b] ± 1.625 |
| week III | 40 | 3.18 [b] ± 1.378 |
| week IV | 40 | 3.10 [b] ± 1.661 |
| week V | 40 | 3.13 [b] ± 1.588 |
| Week VI | 40 | 3.18 [b] ± 1.378 |

Table 4. Mean and Standard Deviation of the Egg production with the Interaction of between different dose and time.

| Treatment Combination | N | Mean ± Standard Deviation |
|---|---|---|
| Week 0-Control | 10 | 1.40 [a] ± 0.516 |
| Week 0-50μg | 10 | 1.40 [a] ± 0,516 |
| Week 0-100μg | 10 | 1.40 [a] ± 0,516 |
| Week 0-200μg | 10 | 1.40 [a] ± 0.516 |
| Week I-Control | 10 | 1.40 [a] ± 0.516 |
| Week I-50μg | 10 | 2.10 [a] ± 0.316 |
| Week I-100μg | 10 | 3.40 [b] ± 0.516 |
| Week I-200μg | 10 | 5.10 [c] ± 0.738 |
| Week II-Control | 10 | 1.60 [a] ± 0.516 |
| Week II-50μg | 10 | 2.10 [a] ± 0.316 |
| Week II-100μg | 10 | 3.70 [b] ± 0.483 |
| Week II-200μg | 10 | 5.50 [c] ± 0.707 |
| Week III-Control | 10 | 1.70 [a] ± 0.823 |
| Week III-50μg | 10 | 1.70 [a] ± 0.483 |
| Week III-100μg | 10 | 3.70 [b] ± 0.483 |
| Week III-200μg | 10 | 5.60 [c] ± 0.516 |
| Week IV-Kontrol | 10 | 1.60 [a] ± 0.516 |
| Week IV-50μg | 10 | 1.80 [a] ± 0.442 |
| Week IV-100μg | 10 | 3.50 [b] ± 0.527 |
| Week IV-200μg | 10 | 5.50 [c] ± 0.527 |
| Week V-Control | 10 | 1.70 [a] ± 0.675 |
| Week V-50μg | 10 | 1.90 [a] ± 0.316 |
| Week V-100μg | 10 | 3.50 [b] ± 0.527 |
| Week V-200μg | 10 | 5.40 [c] ± 0.516 |
| Week VI-Control | 10 | 1.80 [a] ± 0.789 |
| Week VI-50μg | 10 | 1.60 [a] ± 0.516 |
| Week VI-100μg | 10 | 3.70 [b] ± 0.483 |
| Week VI-200μg | 10 | 5.60 [c] ± 0.516 |

Boldness: Different Superscript [at] same column show the difference having a meaning (of) ($P<0.05$)

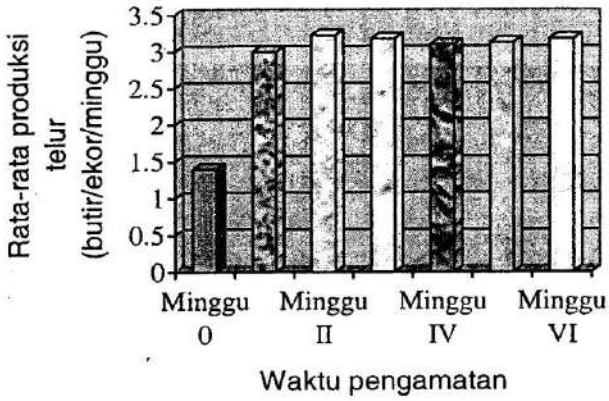


Figure 2. Graph of Bar of product increase of egg at n-week after treatment by using anti prolactine 200$\mu$g / ml.

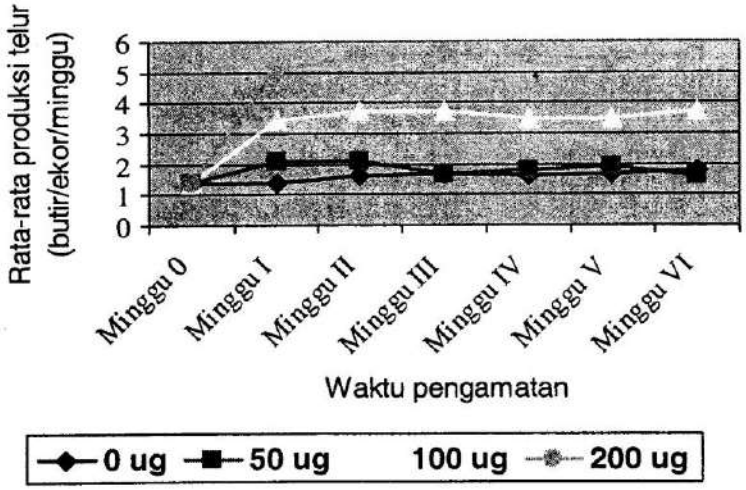


Figure 3. The egg production of the Laying Hens by effect of treatment combination of gift anti-prolactine with the different time and dose.

Hot Stress at chicken can cause the height of rate prolaktin in blood. height of Rate prolactine in blood will degrade the appearance produce. The mentioned as according to statement of Turner and Bagnara, 1988, expressing that hot stress will induce the hypothalamus to release the adenocorticotropic hormon-releasing hormone (ACTH-RH) and prolactine releasing hormone (PRH) to stimulate the hipofisa anterior to yield the ACTH and prolactine. Hormone ACTH which have been produced will stimulate the adrenal cortex to release the hormone corticosteroid of like cortisone, hydrocortisone, aldosteron, glukocorticoid and mineralocorticoid conducted through blood circulation to the ovary so that improve the response of ovary cell to prolactine causing the happening of ovary regression. Existence of regression ovary in the end will cause do not form of a egg. Here in after Havez, (2000) also strengthen the above statement, that prolactine physiologically will mount when chicken suffering

the hot stress. The fact strengthened by statement Ganong 1980, expressing that during heavy heat stress, sum up the ACTH which secreted by hypofisa anterior exceed the amount ACTH which is needed to generate the maximal expenditure of corticosteroid which in the end will improve the response ovary to prolactine so that will cause the happening of ovary regression.

According to Tachibana, *et al.* 2004, Freeman *et al.*, 2000; Jhon and Wentworth 1998, hormone prolactine can cause the happening effect of anti gonadal, is so that happened by the resistance produce the egg and degradation of temperature rectum which in the end produce the egg from hen laying will be down hill even desist, to that's needed by a therapy which can be used to degrade the rate prolactine in very the high blood.

Pursuant to research Safitri (2005) and Safitri *et al.*,(2006) that high rate prolactine in blood earn the neutralization with the gift of anti prolactine. Anti prolactine inseminated will fasten and neutralization work the existing prolactine in chicken blood so that as a result chicken will be able to produce the egg return normally.

Through knowable Factorial method SPSS is showed productivity increasing of natural hens laying of hot stress after inoculation by anti prolactine that is shown sum up the egg from first week after treatment until twelfth week, also can know which the dose can bring back the production of the egg as according to a period of its productivity

Generally the hen laying start to lay eggs after age 16-18 week and reach the top produce at 20-22 week by reaching egg production till 93-96% (Brownian Jesus, 1997; Hy-Line, 1998; Ingham, 1998; Lohmann, 1999). A period of laying eggs counted since chicken reach 5% hen-day till is lower the than 50% hen-day. Hen-Day is a size measure technical efficiency of egg comparing production that day with the chicken amount which live on the. a period of laying eggs in each type and strain chicken different each other. Some hens laying medium there is tired 50% hen day after old age more than 74 week, but there is new also old age 55 week have productive less 60% hen-day (Rasyaf, 1994). Result of research with the Factorial method SPSS show with the gift by anti prolactine with the dose 100 $\mu$ g can increase product the egg above 50% hen day that is about 50-70% hen day at first week after inoculation, while with the dose 200$\mu$g egg production can reach between 70-85% hen day at first week after inoculation.

## CONCLUSION

Pursuant to research which have been done, can be pulled a conclusion and as follows: Anti prolactine serve the purpose of therapy to overcome the degradation produce the egg of hens laying at natural of hot stress.

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