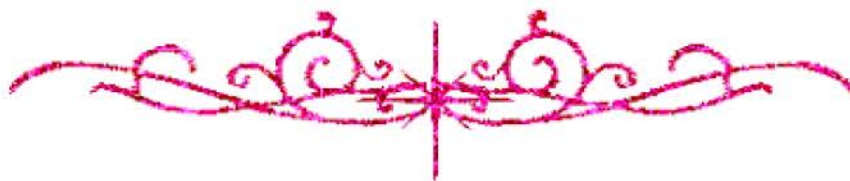


بسم الله الرحمن الرحيم





شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

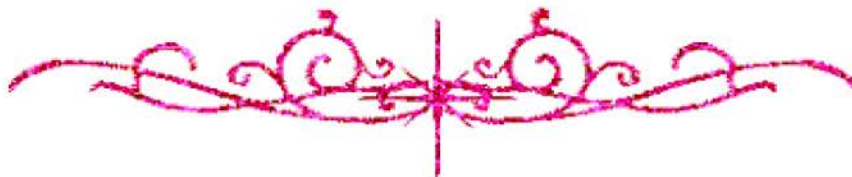
قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات



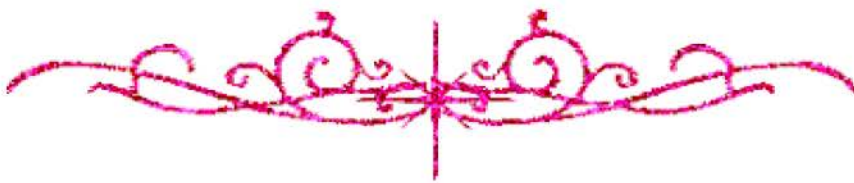
يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



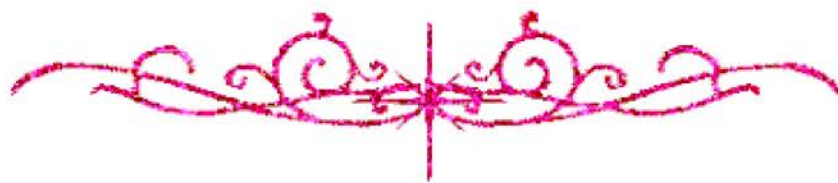


بعض الوثائق الأصلية تالفة



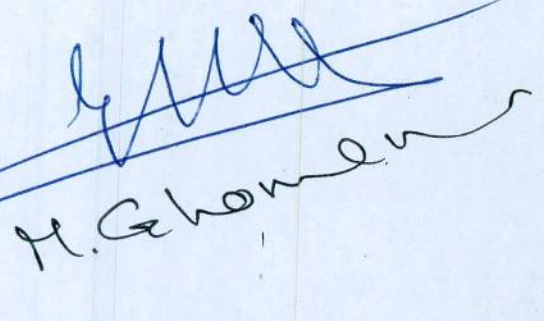


بالرسالة صفحات
لم ترد بالأصل



B 17 A 31

Cairo University
Faculty of Veterinary Medicine
Department of Biochemistry and Chemistry of Nutrition


H. Ghoneim

**SOME BIOCHEMICAL CHANGES IN RUMINANTS DUE
TO INJECTION OF RECOMBINANT
SOMATOTROPIN HORMONE**

Thesis Presented By

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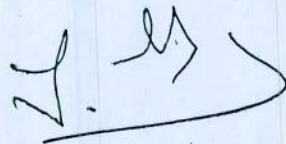
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Approval sheet

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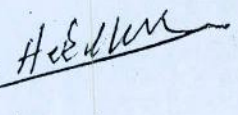
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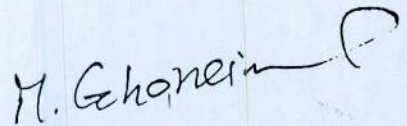
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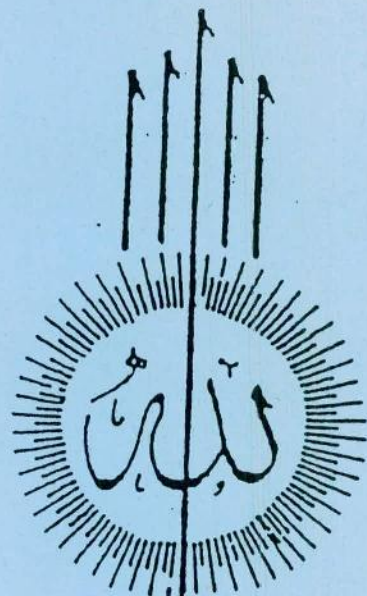
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16/6/2001



قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا
عَلَّمْتَنَا إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ

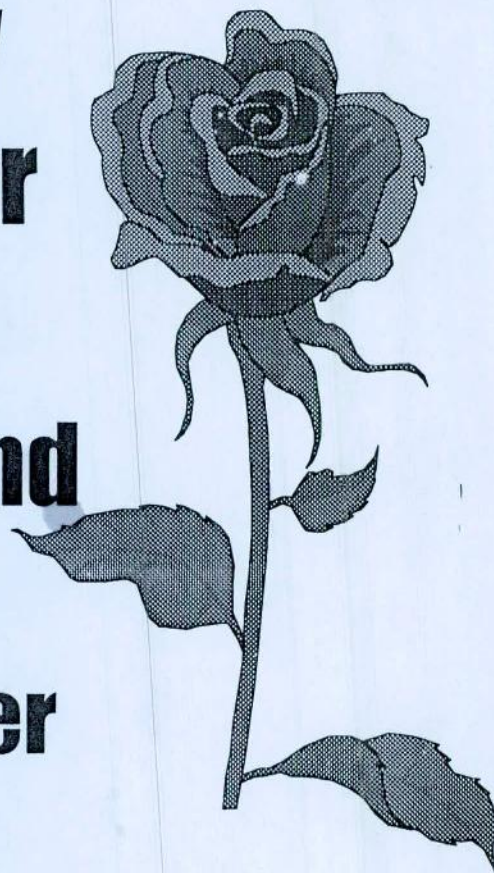
سَدَقَ اللَّهُ الْخَلِيقَ
الْبَقِيَّة - ٢٢ -

Dedication

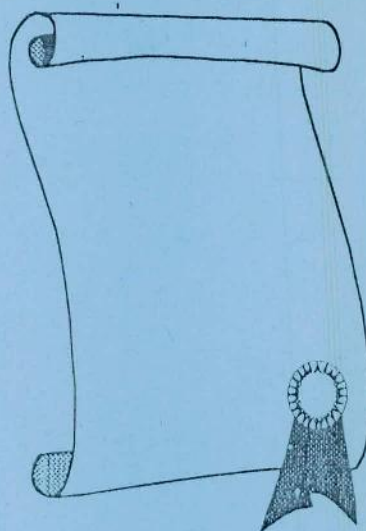
• **For My
Mother**

• **For My
Husband**

• **and For
My Sister
Hend**



Acknowledgment



Acknowledgment

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Head Researcher of Reprod. Phys Unit. In ARRI.

Title of Thesis: **“Some biochemical changes in ruminants due to injection of recombinant somatotropin hormone”.**

Summary:

Exogenous recombinant bovine somatotropin (rbST) when taken by dose 1 mg/kg B.Wt. S/C injection in early post-weaning female (No. 6) and male (No. 7) ranged from 2-3 months of age. rbST raised serum glucose, total cholesterol, total protein, globulin, calcium, phosphorus, copper and zinc, and enzymes (Lipase, lactate dehydrogenase and creatin kinase activities) after most injections. While serum glucose showed fluctuation in rbSt treated females after certain injections and showed a significant decrease of serum total lipid, triacylglycerol, albumin, A/G ratio, urea, creatinine, sodium and potassium after most injections in treated growing lambs. Concentrations of both progesterone and testosterone in rbSt treated female and male respectively showed a significant increase in their levels than control after most injections throughout the trial. Serum insulin like growth factor-1 (IGF-1) revealed a significant increase especially at pubertal stage in females and in adult males. At the same time body weights showed a significant increase with higher percentage at 17th weeks of age (50%) in rbST treated females and (20%) in treated male at 19th weeks of age. Pregnancy rate was 83.3% and 75% in rbST and control ewes respectively. Off-spring body weight showed a significant increase just after birth and throughout weaning age in lambs produced from treated ewes.

Acknowledgment

First of all prayerful thanks due to **Allah** who gave me the health and strength for producing this work.

I wish to express my sincere gratitude to Prof. Dr. **Hatim M.A. El Hindy** Professor of Biochemistry and Chemistry of Nutrition, Fac. Vet. Med. Cairo University for his guidance, encouragement, supervision, valuable help and kind advices and his continual support for completing this work.

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I express my deep thanks for Prof. Dr. **Assem M.A. Otteifa** Professor of Physiology in Biology Dept. of ARRI for his advices and helpful guidance for completing this work.

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At last but not the least my thanks for all members of Department of Biochemistry and Chemistry of Nutrition, Fac. Vet. Med. Cairo University and all members of Biology of reproduction of ARRI.

List of abbreviations

- Acetyl COA:** Acetyl COenzyme A
- ACTH:** Adrenocorticotrophic hormone
- ADG:** Average day gain.
- ARRI:** Animal Reproduction Research Institute.
- ATP:** Adenosine Triphosphate
- bGH:** bovine growth hormone.
- bST:** bovine Somatotropin
- bGHRF:** bovine growth hormone releasing factor.
- B.Wt:** body weight
- CK:** Creatine kinase
- CL:** corpus luteum
- c. AMP:** cyclic adenosine monophosphate
- DNA:** Deoxy ribonucleic acid
- GH:** growth hormone.
- GHRF:** growth hormone releasing factor.
- GnRH:** gonadotrophin releasing hormone.
- GRF:** growth releasing factor
- E.coli:** Escherichia coli.
- FFA:** free fatty acids
- g/dl:** gram per 100 milliliter
- HDL:** high density lipoprotein
- Hrs:** hours.
- HME:** high metabolizable energy
- hST:** human Somatotropin
- IGF I:** insulin like growth factor I
- IGF II:** insulin like growth factor II

IGFBP: insulin like growth factor binding protein.

I.M.: intramuscular injection.

Kg: kilogram.

LH: Luteinizing hormone

LME: low metabolizable energy.

LDH: lactate dehydrogenase

LDL: low density lipoprotein

μ: microgram.

mRNA: messenger ribonucleic acid.

mg: milligram.

mg/dl: milligram per 100 milliliter

μ / kg: microgram per kilogram

μg/ dl: microgram per 100 milliliter

MDE: Moderate dietary energy.

mEq/L: milli equivalent per liter.

ng/ml: nanogram per milliliter.

NEB: Negative energy balance.

NEFA: Non esterified fatty acids.

OOC: Oocyte cumulus complexes.

P4: Progesterone.

PPGH: pituitary porcine growth hormone

pGH: porcine growth hormone.

rbST: recombinant bovine Somatotropin

rpST: recombinant porcine Somatotropin

RIA: Radio immunoassay.

RpGH: recombinant porcine growth hormone.

ST: Somatotropin.

S.C: Subcutaneous injection.

U/L: Unit per liter.

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