

"Investing in Africa's Future"

COLLEGE OF HEALTH, AGRICULTURE & NATURAL SCIENCES

NAAS306 ANIMAL BREEDING

END OF SEMESTER EXAMINATIONS

NOVEMBER 2019

LECTURER: DR. WASHAYA

DURATION: 3 HOURS

INSTRUCTIONS

Answer any five questions.

Applied Animal Breeding:

Compare and contras	t the following:				
		ts.			[8]
					[2]
iii. Animal breed	ing and genetics.				[2]
		ssivity.			[4]
					[4]
	•		ocation in anin	nal breedin	
b) Discuss the conseq	uences of domesti	ication wit	h reference to	L	eding.
d) Giving examples	describe sex-influe	enced and	sex-limited tra	its.	[5] [6] [8]
b) Discuss how selec	tion, mmutation a	nd migrati	on changes gen		
red (bb) and horned (1	op) to produce blace	ck and pol	led heterozygo	tes (BbPp)	as the F
		ow the cha	nges to the pho	F4 07	tios as a
	1	their patter	n of inheritance	L -	10]
b) Polygenic traits ar explain these two	e either linked (linconcepts.	nked genes	or correlated,	using prac [10]	tical exa
Shorthorn cattle exhib				ite). The ge	enotypes
	COLUMN MILM TANGET	are bill will	OCIOVV.		
lour	Genotype	Ni	mber		
lour	Genotype RR		mber = 360		
	RR	n_{RR}	= 360		
d					
	 i. Qualitative and ii. Gene and alledii. Animal breedii. Animal breediiv. Penetrance and v. Co-dominance a) Illustrate the importable b) Discuss the consequence. b) Discuss the consequence. c) Indicate the geneted d) Giving examples and a) Describe the concequence. b) Discuss how selected a) Discuss how selected a) Angus cattle which red (bb) and horned (proposed by the proposed b) Using data in questor dominant and recease a) Discuss sex-linked b) Polygenic traits are explain these two described by the proposed by t	 ii. Gene and allele. iii. Animal breeding and genetics. iv. Penetrance and variable expression. v. Co-dominance and partial dominal and Illustrate the importance of Robertson. b) Discuss the consequences of domestic. c) Indicate the genetic basis of pale sond. d) Giving examples describe sex-influental and Describe the concept of graded dominal. b) Discuss how selection, mmutation and analysis and horned (pp) to produce blath Determine the phenotypic ratios if the horned phenotypic ratios if the horned phenotypic ratios. b) Using data in question (a) above, shadominant and recessive epistasis. a) Discuss sex-linked traits, illustrating. b) Polygenic traits are either linked (line explain these two concepts. 	 i. Qualitative and quantitative traits. ii. Gene and allele. iii. Animal breeding and genetics. iv. Penetrance and variable expressivity. v. Co-dominance and partial dominance. a) Illustrate the importance of Robertsonian translet b) Discuss the consequences of domestication with c) Indicate the genetic basis of pale soft exudative d) Giving examples describe sex-influenced and an an interest of graded dominance as extended to the concept of graded dominance and migration. a) Angus cattle which are black (BB) and polled (I red (bb) and horned (pp) to produce black and polled (bb) and horned (pp) to produce black and polled (bb) and horned (pp) to produce black and polled (bb) using data in question (a) above, show the chardominant and recessive epistasis. a) Discuss sex-linked traits, illustrating their patterned by Polygenic traits are either linked (linked genesic explain these two concepts. 	 i. Qualitative and quantitative traits. ii. Gene and allele. iii. Animal breeding and genetics. iv. Penetrance and variable expressivity. v. Co-dominance and partial dominance. a) Illustrate the importance of Robertsonian translocation in anim b) Discuss the consequences of domestication with reference to a c) Indicate the genetic basis of pale soft exudative (PSE) meat. d) Giving examples describe sex-influenced and sex-limited train a) Describe the concept of graded dominance as exhibited by rab b) Discuss how selection, mmutation and migration changes generally and the product of the product of the phenotypic ratios if the heterozygotes were crossed (bb) and horned (pp) to produce black and polled heterozygotes were crossed (bb) and horned (pp) to produce black and polled heterozygotes were crossed (bb) and horned (pp) to produce black and polled heterozygotes were crossed (bb) and horned (pp) to produce black and polled heterozygotes were crossed (bb) and horned (pp) to produce black and polled heterozygotes were crossed (bb) and horned (pp) to produce black and polled heterozygotes were crossed (bb) and horned (pp) to produce black and polled heterozygotes were crossed (bb) and horned (pp) to produce black and polled heterozygotes were crossed (bb) and horned (pp) to produce black and polled heterozygotes were crossed (bb) and horned (pp) to produce black and polled heterozygotes were crossed (bb) and horned (pp) to produce black and polled (pp) were crossed (bb) and horned (pp) to produce black and polled (pp) were crossed (bb) and horned (pp) to produce black and polled (pp) were crossed (bb) and horned (pp) to produce black and polled (pp) were crossed (bb) and horned (pp) to produce black and polled (pp) were crossed (bb) and horned (pp) to produce black and polled (pp) were crossed (bb) and horned (pp) to produce black and polled (pp) were crossed (pp) to produce black and polled (pp) were crossed (pp) to produce	i. Qualitative and quantitative traits. ii. Gene and allele. iii. Animal breeding and genetics. iv. Penetrance and variable expressivity. v. Co-dominance and partial dominance. a) Illustrate the importance of Robertsonian translocation in animal breedin [4] b) Discuss the consequences of domestication with reference to animal bree [5] c) Indicate the genetic basis of pale soft exudative (PSE) meat. d) Giving examples describe sex-influenced and sex-limited traits. a) Describe the concept of graded dominance as exhibited by rabbits. b) Discuss how selection, mmutation and migration changes gene and general particles and polled (PP) were crossed to Hereford (bb) and horned (pp) to produce black and polled heterozygotes (BbPp) Determine the phenotypic ratios if the heterozygotes were crossed in F2 general particles and polled (PP) were crossed in F2 general particles and polled (PP) were crossed in F2 general particles and polled (PP) were crossed in F2 general particles and polled (PP) were crossed in F2 general particles and polled (PP) were crossed in F2 general particles and polled (PP) were crossed in F2 general particles and polled (PP) were crossed in F2 general particles and polled particles and polled particles are crossed in F2 general particles and polled particles are crossed in F2 general particles and polled particles are crossed in F2 general particles and polled particles are crossed in F2 general particles and polled particles are crossed in F2 general particles and polled particles are crossed in F2 general particles and polled particles are crossed in F2 general particles and polled particles are crossed in F2 general particles and polled particles are crossed in F2 general particles and polled particles are crossed in F2 general particles and polled particles are crossed in F2 general particles and polled particles are crossed in F2 general particles and particles are crossed in F2 general particles and particles are crossed in F2 general particles and particles are crossed in F2 g

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Using the Hardy-Weinberg Law determine the gene and genotypic frequencies.

b) Illustrate maternal effects in animal breeding

7. a) Discuss the importance of heritability and repeatability as genetic parameters. [10]

b) State and explain the effects of inbreeding.

[10]

END OF QUESTION PAPER!!!