Table (2): Fungal flora in ingredients of plant origin (25 samples of each).

Fungal genera	White corn		Yellow corn		Soya bean		Wheat		Beans		Soya bean meal	
	No. of +ve	%	No. of +ve	%	No. of +ve	%	No. of +ve	%	No. of +ve	%	No. of +ve	%
Aspergillus sp.	15	60	13	52	13	52	12	48	17	68	15	60
A. flavus	12	48	13	52	11	44	11	44	15	60	10	40
A. ochraceus	9	36	6	24	8	32	8	32	11	44	10	40
A. Candidus	4	16	2	8	2	8	1	4	-	0	3	12
A. fumigatus	-	0	1	4	3	12	1	4	1	4	1	4
Fusarium sp.	3	12	2	8	-	0	1	4	6	21	2	8
F. moniliforme	2	8	1	4	-	0	-	0	-	0	1	4
F. poae	1	4	1	4	-	-	1	0	0	0	2	8
Penicillium sp.	5	20	5	20	3	12	3	12	2	8	3	12
Rhizopus sp.	3	12	3	12	2	8	4	16	0	0	1	4
Mucor sp.	3	12	2	8	-	0	-	-	0	0	1	4

Table (3): Fungal flora in animal protein concentrates:

Fungal genera	Meat and ban meal		Fish meal		Poultry abattoir of fowls		Mixed feed	
	No. of +ve	%	No. of +ve	%	No. of +ve	%	No. of +ve	%
Aspergillus sp.	25	100	22	88	20	80	25	100
A. flavus	25	100	22	88	16	64	25	100
A. niger	6	24	5	20	8	32	22	88
A. ochraceus	15	60	11	44	10	40	25	100
A. glucuas	3	12	0	0	1	4	1	4
A. Candidus	8	32	6	24	4	16	5	20
A. terrus	1	4	1	4	2	8	1	4
A. fumigatus	0	0	2	8	1	4	5	20
Mucor	25	100	16	64	14	56	7	28
Rhizopus	4	16	0	0	3	12	10	40
Penicillium sp.	17	68	8	32	11	44	6	24
P. citreanum	6	24	3	12	10	40	1	4
P. implicatum	7	28	6	24	3	12	6	24
Fusarium sp.	2	8	0	0	0	0	5	20
F. moniliforme	1	4	0	0	0	0	3	12
F. poae	1	4	0	0	0	0	3	12
Rhodotorula sp.	2	8	0	0	0	0	1	4
Scopulariopsis sp.	0	0	0	0	0	0	2	8
Alternaria sp.	0	0	0	0	2	8	1	4
Cladosporium	1	4	2	8	2	8	1	4

Table (4): Mycotoxin content in feed ingredients of plant origin (ppb).

Feed	Aflatoxin			Ochratoxin			Zearalenon			T-2		
	No.	%	Mean	No.	%	Mean	No.	%	Mean	No.	%	Mean
White corn	2	8	22	1	4	16	-	0	0	-	-	-
Yellow corn	2	8	26	1	4	15	-	0	0	2	8	19
Soya bean	5	20	18	3	12	23	0	0	0	1	4	17
Wheat	3	12	20	1	4	22	1	4	50	1	4	22
Bean	2	8	31	2	8	28	1	4	33	0	0	0
Soya bean meal	5	20	27	4	16	20	-	-	-	-	-	-

ppb = part per billion

Table (5): Mycotoxin content of animal concentrates from waste product (ppb).

Feed	Aflatoxin			Ochratoxin			Zearalenon			T-2		
	No.	%	Mean	No.	%	Mean	No.	%	Mean	No.	%	Mean
Meat and bone meal	15	60	30	9	36	50	4	16	86	1	4	60
Fish meal	13	52	23	9	36	47	6	24	94	-	-	-
Poultry abattoir offales	13	52	42	12	48	63	6	24	43	-	-	-
Mixed feed	12	48	37	11	44	67	5	20	25	1	4	75

*ppb = part per billion

Table (10) Effect of aflatoxin (Af) and ochartoxin individual or combined with garlic extract or molasses on serum enzymatic activity and kidney function of Japanese quails (n = 5).

	AST (u/l)	ALT (u/l)	ALP (u/l)	LDH (u/l)	Urea (mg%)	Creatinine (mg%)
G1	46.80 ± 4.13	23.00 ± 2.56	210.69 ± 10.22	280.81 ± 20.21	20.51 ± 1.67	1.39 ± 0.08
G2	64.00 ± 4.01**	31.75 ± 1.69**	261.81 ± 12.41**	450.15 ± 23.51***	29.13 ± 1.95**	1.97 ± 0.10**
G3	58.33 ± 3.08*	28.81 ± 1.34*	242.19 ± 9.97*	380.18 ± 28.17**	24.84 ± 1.57*	1.61 ± 0.08*
G4	59.54 ± 3.85	30.50 ± 2.02*	246.47 ± 8.82*	410.06 ± 29.77***	25.87 ± 1.50*	1.66 ± 0.11*
G5	60.24 ± 5.45	28.18 ± 1.12*	256.43 ± 7.46**	588.87 ± 37.11***	34.55 ± 1.55***	2.32 ± 0.11***
G6	56.50 ± 4.32	26.67 ± 1.66	227.81 ± 9.26	409.09 ± 32.81**	27.23 ± 1.92*	1.88 ± 0.14**
G7	55.82 ± 3.01	25.01 ± 2.16	235.15 ± 6.10*	401.00 ± 30.81**	26.78 ± 1.62*	1.67 ± 0.10*

* Significant at $P < 0.05$

** Significant at $P < 0.01$
*** Significant at $P < 0.001$

Table (11) Effect of aflatoxin (Af) and ochartoxin individual or combined with garlic extract or molasses on serum T. lipid, Lipid profile and lipoprotein of Japanese quails (n = 5).

	T. lipid	Triglycerides	Cholesterol	HDL	LDL	VLDL
G1	560.97 ± 18.31	120.67 ± 3.61	109.03 ± 3.21	56.65 ± 2.21	68.25 ± 2.37	24.13 ± 1.07
G2	420.69 ± 10.82***	106.28 ± 3.04**	144.19 ± 4.05**	28.19 ± 3.01***	84.00 ± 4.51**	21.25 ± 1.10*
G3	320.18 ± 25.62***	96.14 ± 3.64***	131.75 ± 4.17***	49.59 ± 2.65*	53.90 ± 3.67**	19.26 ± 1.01**
G4	470.63 ± 20.37***	109.73 ± 4.97	148.00 ± 4.51*	39.04 ± 3.32***	77.70 ± 3.02*	21.99 ± 1.21
G5	396.87 ± 12.20****	103.31 ± 4.01**	141.91 ± 3.79**	30.51 ± 3.99***	80.74 ± 4.11*	20.66 ± 1.36*
G6	311.98 ± 22.20***	82.67 ± 4.32***	116.69 ± 5.00***	49.07 ± 2.72*	41.09 ± 3.37***	16.53 ± 1.12***
G7	401.90 ± 24.84****	107.01 ± 4.86	148.99 ±4.97	42.56 ± 3.00***	75.03 ± 3.21	21.40 ± 1.08

* Significant at P < 0.05

** Significant at P < 0.01

*** Significant at P < 0.001

Table (12) Effect of aflatoxin (Af) and ochartoxin individual or combined with garlic extract or molasses on serum total protein and electrophoretic pattern of Japanese quails (n = 5).

	T.P.	Prealbumin	Albumin	T-Alpha	T. Beta	T. Gamma	T. globulin	A/G ratio
G1	3.41 ± 0.10	0.08 ± 0.01	1.13 ± 0.05	0.95 ± 0.03	0.53 ± 0.02	0.72 ± 0.04	2.20 ± 0.09	0.51 ± 0.0
G2	3.06 ± 0.14*	0.05 ± 0.01*	0.88 ± 0.01***	0.85 ± 0.02*	0.37 ± 0.04***	0.91 ± 0.05	2.13 ± 0.05*	0.41 ± 0.0
G3	3.24 ± 0.13	0.06 ± 0.008	1.04 ± 0.03	0.86 ± 0.04	0.42 ± 0.05*	0.86 ± 0.04	2.14 ± 0.06	0.48 ± 0.0
G4	3.24 ± 0.11	0.06 ± 0.005	1.01 ± 0.02	0.88 ± 0.05	0.43 ± 0.05	0.87 ± 0.05	2.16 ± 0.05	0.47 ± 0.0
G5	3.01 ± 0.09**	0.04 ± 0.01**	0.87 ± 0.02***	0.86 ± 0.03*	0.35 ± 0.04***	0.89 ± 0.06	2.10 ± 0.05	0.41 ± 0.0
G6	3.15 ± 0.09*	0.07 ± 0.007	0.93 ± 0.07*	0.84 ± 0.04*	0.41 ± 0.05*	0.90 ± 0.06	2.15 ± 0.05	0.43 ± 0.0
G7	3.19 ± 0.12	0.06 ± 0.01	0.98 ± 0.06*	0.82 ± 0.04*	0.44 ± 0.05	0.89 ± 0.05	2.15 ± 0.06	0.46 ± 0.0

* Significant at P < 0.05

** Significant at P < 0.01

*** Significant at P < 0.001

Table (13) Effect of aflatoxin (Af) and ochartoxin individual or combined with garlic extract or molasses on serum protein subfraction of Japanese quails (n = 5).

	Alpha1	Alpha2	Beta1	Beta2	Gamma1	Gamma2
G1	0.23 ± 0.01	0.62 ± 0.02	0.29 ± 0.02	0.24 ± 0.02	0.50 ± 0.03	0.22 ± 0.02
G2	0.18 ± 0.02*	0.67 ± 0.02	0.20 ± 0.02**	0.17 ± 0.03*	0.61 ± 0.02**	0.30 ± 0.02*
G3	0.21 ± 0.02	0.65 ± 0.01	0.24 ± 0.01*	0.18 ± 0.02*	0.60 ± 0.03*	0.26 ± 0.03
G4	0.21 ± 0.03	0.67 ± 0.02	0.24 ± 0.02	0.19 ± 0.03	0.59 ± 0.03*	0.28 ± 0.02*
G5	0.18 ± 0.02*	0.68 ± 0.03	0.20 ± 0.01***	0.15 ± 0.03*	0.60 ± 0.04*	0.29 ± 0.02*
G6	0.18 ± 0.02*	0.66 ± 0.02	0.23 ± 0.02*	0.18 ± 0.03	0.63 ± 0.03*	0.27 ± 0.03
G7	0.17 ± 0.03*	0.65 ± 0.02	0.26 ± 0.01	0.18 ± 0.03	0.61 ± 0.04*	0.28 ± 0.02*

* Significant at P < 0.05

** Significant at P < 0.01

*** Significant at P < 0.001