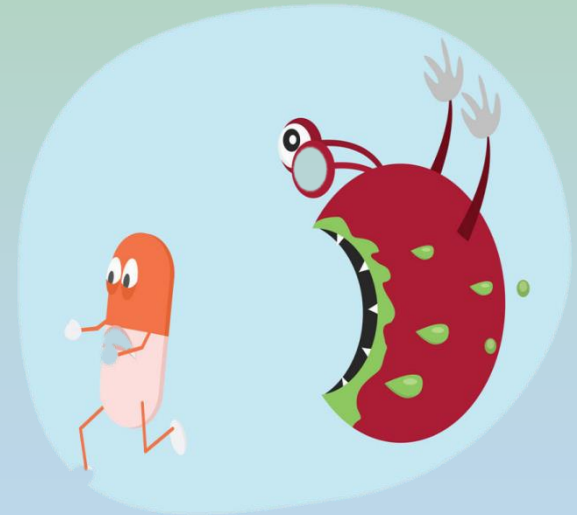
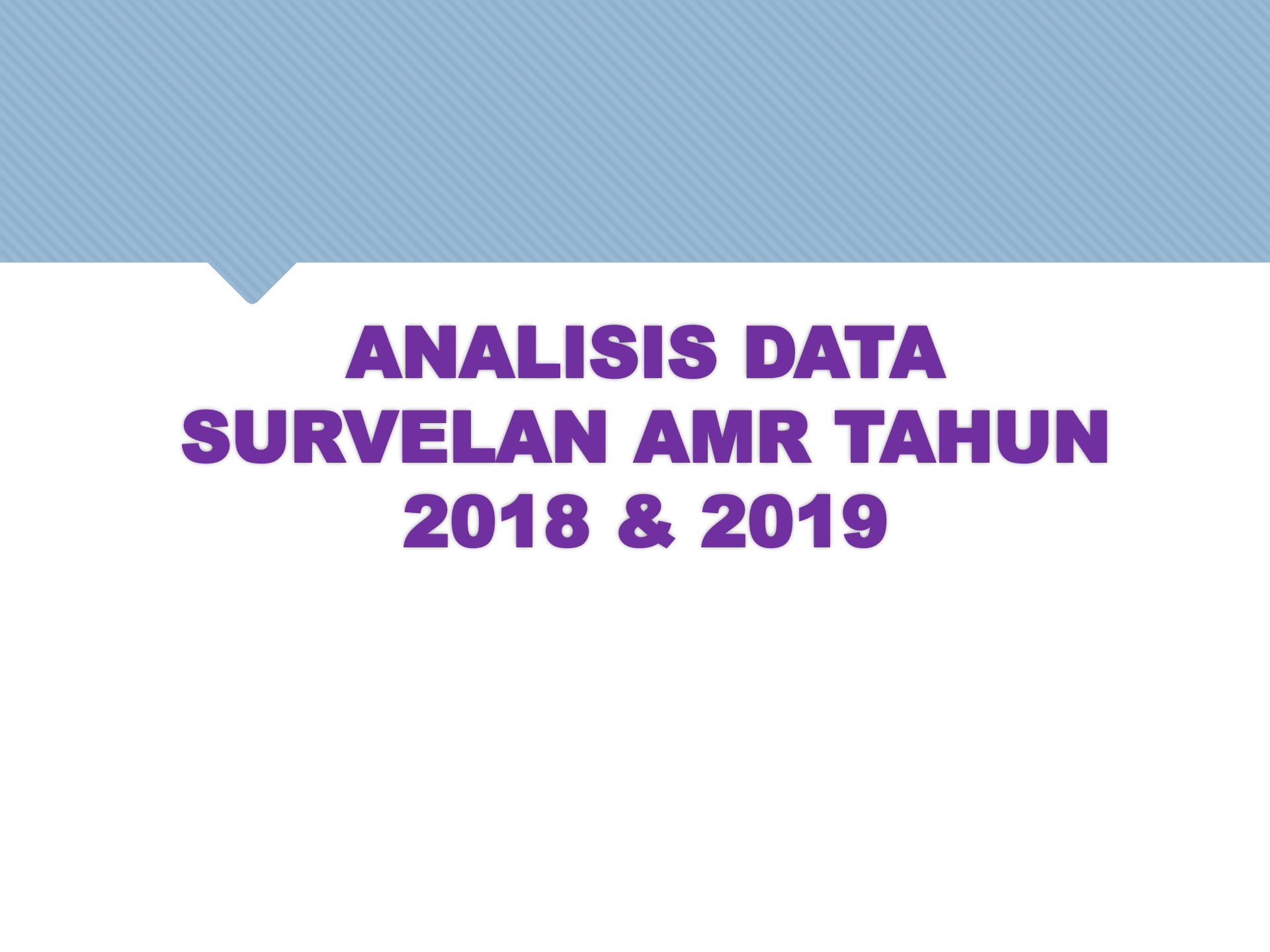


PROGRAM SURVELAN AMR DAN DATA ANALISIS 2018 -2019

**BAHAGIAN KAWALAN PENYAKIT DAN
BIOSEKURITI VETERINAR
JABATAN PERKHIDMATAN
VETERINAR PUTRAJAYA**





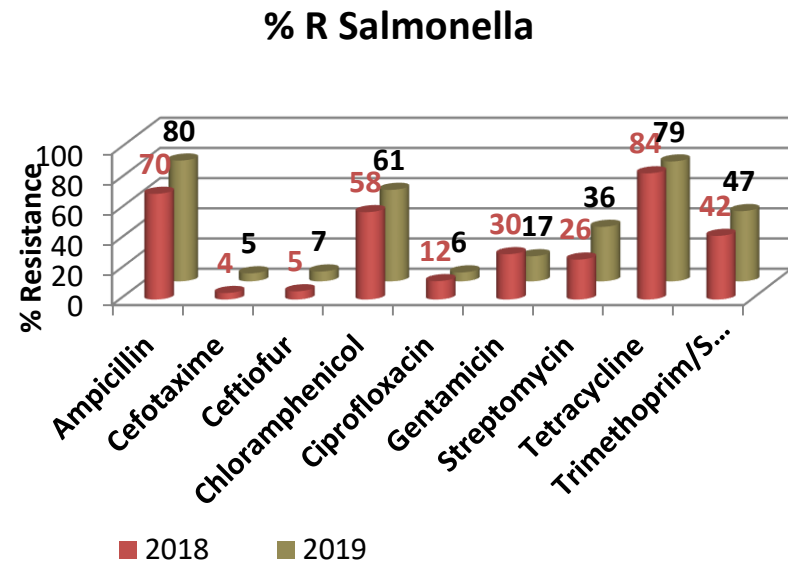
ANALISIS DATA SURVELAN AMR TAHUN 2018 & 2019

DATA ANALISIS SURVELAN AMR 2018 & 2019 : LADANG TERNAKAN

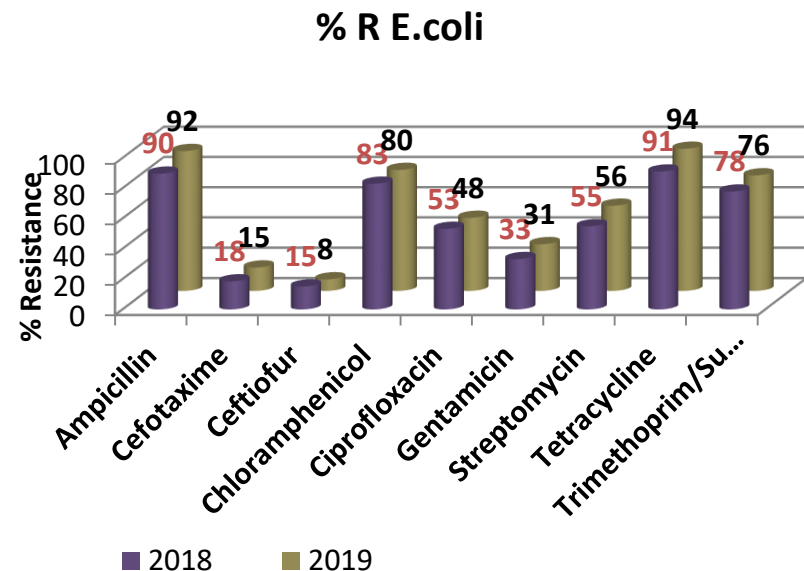
2018								
Spesis / farm	Bil ladang sample	Bil sample (pooled)	Bilangan isolates		Bil ladang positif		Prevalen ladang (%)	
			Salm spp	E.coli	Salm spp	E.coli	Salm spp	E.coli
Broiler	258	2429	140	434	39	101	15.1	39.1
Layer	58	497	8	140	2	38	3.4	65.5
Pig	44	170	7	47	6	38	13.6	86.4
2019								
Spesis / farm	Bil ladang sample	Bil sample (pooled)	Bilangan isolates		Bil ladang positif		Prevalen ladang (%)	
			Salm spp	E.coli	Salm spp	E.coli	Salm spp	E.coli
Broiler	238	2309	170	544	72	207	30.3	87
Layer	50	782	30	213	11	49	22	98
Pig	110	110	12	62	12	56	10.9	50.9

PREVALEN AMR : LADANG BROILER

Antibiotic name	Salmonella in Broiler					
	% R		% I		% S	
	2018	2019	2018	2019	2018	2019
Ampicillin	70	80	1	1	29	19
Cefotaxime	4	5	2	2	94	93
Ceftiofur	5	7	1	1	94	92
Chloramphenicol	58	61	1	1	41	39
Ciprofloxacin	12	6	70	68	18	27
Gentamicin	30	17	5	10	65	74
Streptomycin	26	36	44	33	29	31
Tetracycline	84	79	1	4	15	17
Trimethoprim/Sulfamethoxazole	42	47	2	1	56	52

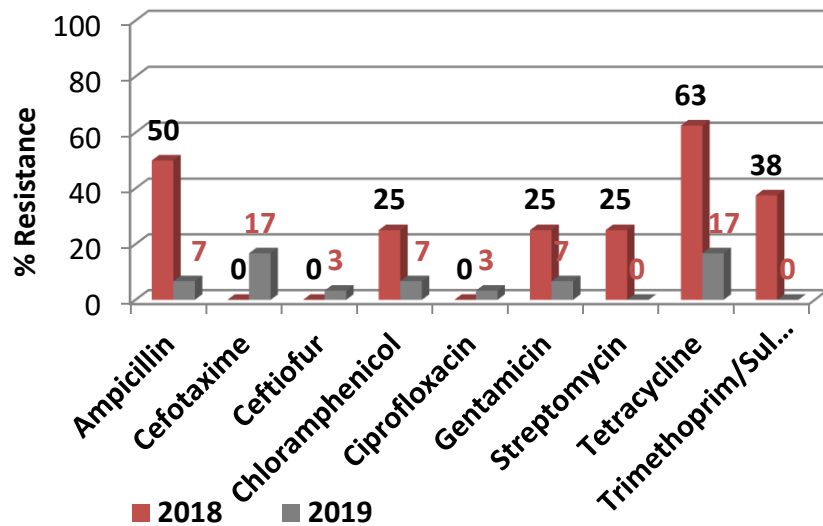


Antibiotic name	E.coli in Broiler					
	% R		% I		% S	
	2018	2019	2018	2019	2018	2019
Ampicillin	90	92	1	2	10	6
Cefotaxime	18	15	7	6	74	79
Ceftiofur	15	8	10	5	75	88
Chloramphenicol	83	80	2	2	15	18
Ciprofloxacin	53	48	8	9	39	43
Gentamicin	33	31	14	7	53	62
Streptomycin	55	56	13	12	32	32
Tetracycline	91	94	2	1	7	5
Trimethoprim/Sulfamethoxazole	78	76	0	2	22	22



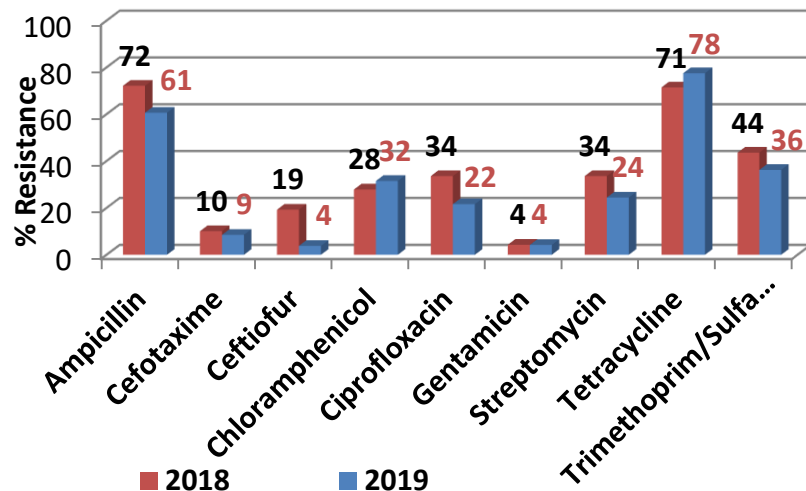
PREVALEN AMR : LADANG LAYER

% R Salmonella



Antibiotic name	Salmonella in Layer					
	% R		% I		% S	
	2018	2019	2018	2019	2018	2019
Ampicillin	50	7	0	0	50	93
Cefotaxime	0	17	0	7	100	77
Ceftiofur	0	3	0	0	100	97
Chloramphenicol	25	7	0	0	75	93
Ciprofloxacin	0	3	63	33	38	63
Gentamicin	25	7	0	0	75	93
Streptomycin	25	0	63	3	13	97
Tetracycline	63	17	0	3	38	80
Trimethoprim/Sulfamethoxazole	38	0	0	0	63	100

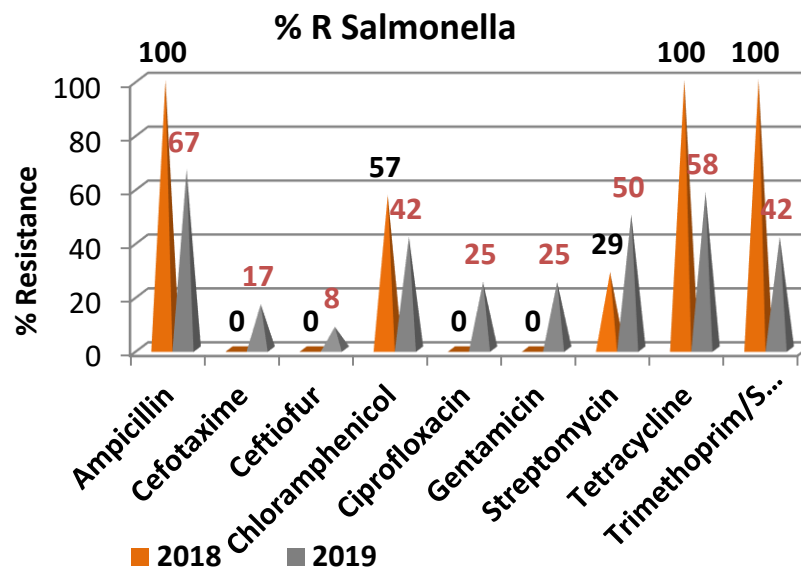
% R E.coli



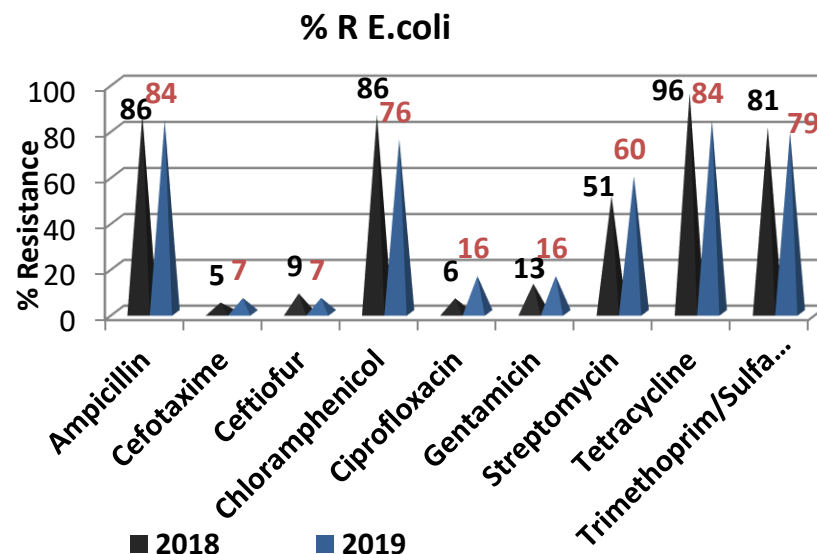
Antibiotic name	E.coli in Layer					
	% R		% I		% S	
	2018	2019	2018	2019	2018	2019
Ampicillin	72	61	1	8	26	32
Cefotaxime	10	9	7	6	83	86
Ceftiofur	19	4	11	5	70	92
Chloramphenicol	28	32	17	1	55	67
Ciprofloxacin	34	22	8	9	59	70
Gentamicin	4	4	0	1	96	95
Streptomycin	34	24	11	13	56	62
Tetracycline	71	78	9	5	20	18
Trimethoprim/Sulfamethoxazole	44	36	2	5	54	59

PREVALEN AMR : LADANG BABI

Antibiotic name	Salmonella in Pig					
	% R		% I		% S	
	2018	2019	2018	2019	2018	2019
Ampicillin	100	67	0	0	0	33
Cefotaxime	0	17	0	0	100	83
Ceftiofur	0	8	0	8	100	83
Chloramphenicol	57	42	0	0	43	58
Ciprofloxacin	0	25	57	67	43	8
Gentamicin	0	25	0	0	100	75
Streptomycin	29	50	57	8	14	42
Tetracycline	100	58	0	0	0	42
Trimethoprim/Sulfamethoxazole	100	42	0	0	0	58



Antibiotic name	E.coli in Pig					
	% R		% I		% S	
	2018	2019	2018	2019	2018	2019
Ampicillin	86	84	0	3	14	13
Cefotaxime	5	7	5	11	91	82
Ceftiofur	9	7	2	5	89	89
Chloramphenicol	86	76	0	10	14	15
Ciprofloxacin	6	16	11	8	83	76
Gentamicin	13	16	4	0	83	84
Streptomycin	51	60	15	13	34	27
Tetracycline	96	84	0	3	4	13
Trimethoprim/Sulfamethoxazole	81	79	4	2	15	20

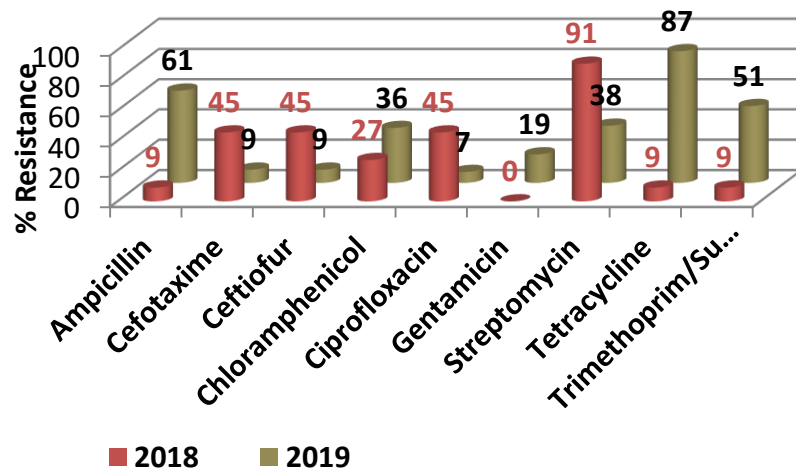


DATA ANALISIS SURVELAN AMR DI RUMAH SEMBELIH AYAM DAN BABI PADA 2018 & 2019

2018				
Animal Products	Bil abatoir	Bil sample	Bilangan isolates	
			<i>Salmonella</i> sp	<i>E.coli</i>
Chicken meat	12	539	48	10
Pork meat	7	332	11	24
2019				
Animal Products	Bil abatoir	Bil sample	Bilangan isolates	
			<i>Salmonella</i> sp	<i>E.coli</i>
Chicken meat	26	1006	69	106
Pork meat	21	458	22	92

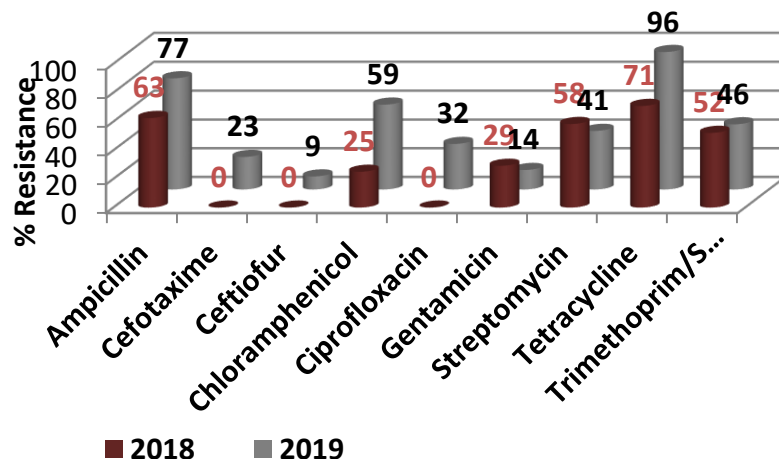
PREVALEN AMR PRODUK HAIWAN : *Salmonella spp*

% R Salmonella in chicken meat



Antibiotic name	Chicken Meat					
	% R		% I		% S	
	2018	2019	2018	2019	2018	2019
Ampicillin	9	61	0	0	91	39
Cefotaxime	45	9	0	12	55	80
Ceftiofur	45	9	0	10	55	81
Chloramphenicol	27	36	0	1	73	62
Ciprofloxacin	45	7	9	64	45	29
Gentamicin	0	19	0	12	100	70
Streptomycin	91	38	0	17	9	45
Tetracycline	9	87	0	3	91	10
Trimethoprim/Sulfamethoxazole	9	51	0	3	91	46

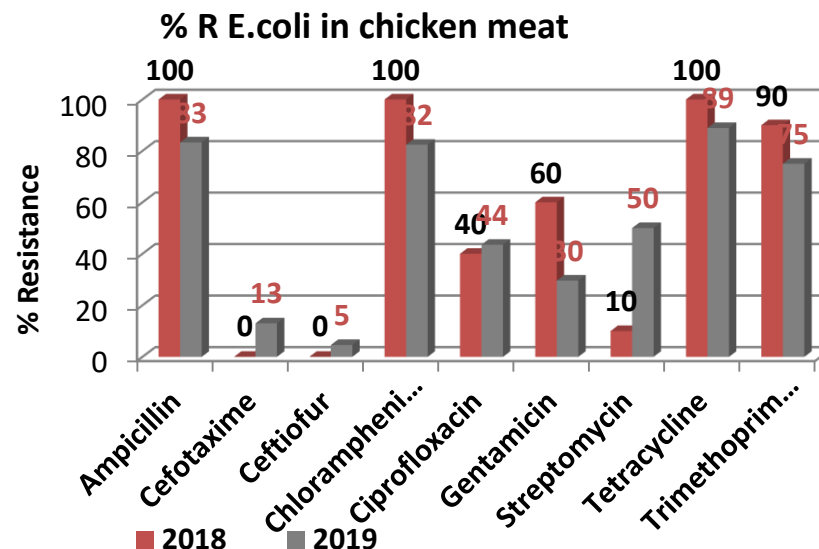
% R Salmonella in pork meat



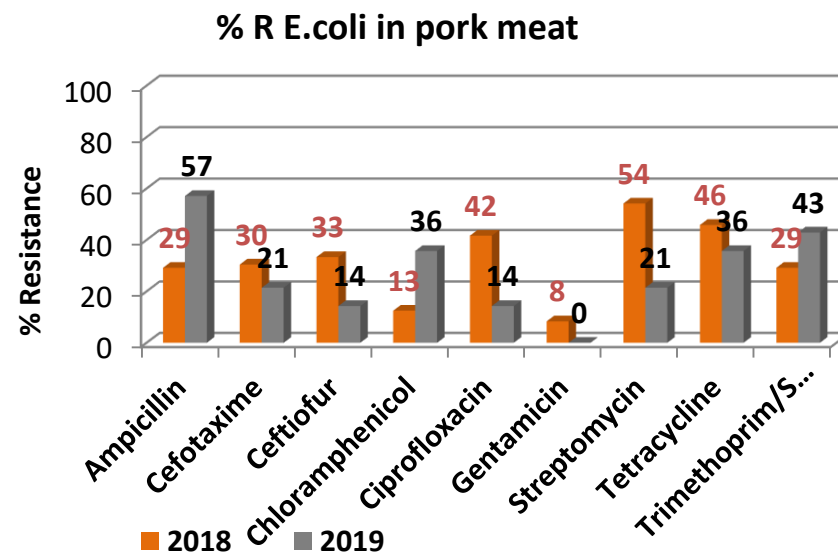
Antibiotic name	Pork Meat					
	% R		% I		% S	
	2018	2019	2018	2019	2018	2019
Ampicillin	63	77	0	0	38	23
Cefotaxime	0	23	0	18	100	59
Ceftiofur	0	9	0	36	100	55
Chloramphenicol	25	59	0	0	75	41
Ciprofloxacin	0	32	0	55	100	14
Gentamicin	29	14	0	5	71	82
Streptomycin	58	41	2	23	40	36
Tetracycline	71	96	0	0	29	5
Trimethoprim/Sulfamethoxazole	52	46	0	0	48	55

PREVALEN AMR PRODUK HAIWAN : *E.coli*

Antibiotic name	Chicken Meat					
	% R		% I		% S	
	2018	2019	2018	2019	2018	2019
Ampicillin	100	83	0	1	0	16
Cefotaxime	0	13	10	7	90	80
Ceftiofur	0	5	10	9	90	86
Chloramphenicol	100	82	0	1	0	17
Ciprofloxacin	40	44	10	10	50	46
Gentamicin	60	30	0	11	40	59
Streptomycin	10	50	40	11	50	39
Tetracycline	100	89	0	3	0	8
Trimethoprim/Sulfamethoxazole	90	75	0	0	10	25



Antibiotic name	Pork Meat					
	% R		% I		% S	
	2018	2019	2018	2019	2018	2019
Ampicillin	29	57	0	14	71	29
Cefotaxime	30	21	0	0	70	79
Ceftiofur	33	14	0	7	67	79
Chloramphenicol	13	36	0	0	88	64
Ciprofloxacin	42	14	8	7	50	79
Gentamicin	8	0	4	0	88	100
Streptomycin	54	21	13	14	33	64
Tetracycline	46	36	8	0	46	64
Trimethoprim/Sulfamethoxazole	29	43	4	0	67	57



PERANCANGAN 2021

- **Penambahan surveilan AMR kepada 4 lagi tambahan antibiotic yang telah di Banned oleh pihak Jabatan bagi melihat trend AMR kepada antibiotik terbabit dan kemungkinan masih berlaku penggunaan.**
- **Penambahan pengujian AMR keatas isolates kes diagnostic.**

ANTIMICROBIAL OF INTEREST (SURVEILLANCE PROGRAM)

Surveillance 2018 -2020	Banned antibiotic	Surveillance 2021
1. Ampicillin	Erythromycin	1. Ampicillin
2. Ceftiofur	Enrofloxacin	2. Ceftiofur
3. Ciprofloxacin	Ceftiofur	3. Ciprofloxacin
4. Gentamicin	Tetracycline	4. Gentamicin
5. Streptomycin	Tylosin	5. Streptomycin
6. Tetracycline	Fosfomycin	6. Tetracycline
7. Trimethoprim/ Sulphamethoxazole	Colistin	7. Trimethoprim/ Sulphamethoxazole
8. Colistin		8. Colistin
9. Cefotaxime		9. Cefotaxime
10. Chloramphenicol		10. Chloramphenicol
		11. Erythromycin
		12. Enrofloxacin
		13. Tylosin
		14. Fosfomycin



THANK YOU