due to streptococci. Results against mastitis caused by other organisms are poor, but fortunately such cases are relatively rare. In all cases three injections were given at twenty-four-hour intervals :—

Treatment.	Number of Quarters.	Bacterial Cure.	Clinical Cure.	No Effect.
		Clinical Cases		
		Per Cent.	Per Cent.	Per Cent.
25,000 units (solution) ..	144	52	22	26
33,000 units (solution) ..	58	57	7	36
Mastics (10,000 - 50,000 units)	136	75	11	14
		Sub-clinical Cases		
Lactating cows—		Per Cent.	Per Cent.	Per Cent.
25,000 units	50	90	..	10
33,000 units	31	84	..	16
Dry cows—				
25,000 units	79	90	..	10
33,000 units	25	80	..	20

Clinical cure means that udder and milk returned to normal but bacteria were still present. Bacterial cure means clinical cure plus removal of bacteria.

In view of the importance of developing methods of using penicillin as a means of field control of mastitis, two methods of herd treatment were compared. In one group of 5 herds of 450 cows all clinical cases occurring during the 1946–47 season were treated with penicillin and the incidence of clinical cases recorded during the following season.

In another group of 7 herds of 400 cows all clinical cases in the 1946–47 season were treated and, in addition, all latent cases and any existing clinical cases, located by examination toward the end of the season, were treated when the cows were dry. Again occurrence of new cases the following season was recorded.

	Treatment during Season.		Treatment during Season and Dry Period.	
	1946–47.	1947–48.	1946–47.	1947–48.
Cows	459	445	386	392
Clinical quarters	101	140	139	74
Percentage clinical quarters	5·5	7·8	9·0	4·7

It is clear that treatment of clinical cases during one season did not reduce the incidence of cases the following year. On the other hand, dry-period treatment in association with treatment during the year produced a marked reduction in the incidence of clinical cases the following season.

A limited amount of data was obtained on the effect of a second course of treatment of cows not responding to the first course or showing only a clinical cure. Approximately half of the cases giving no effect responded after the second course, while most of those showing only a clinical response became bacterial cures. In a few cases which did not respond initially, prolonged treatment was tried, and in most of these some improvement was noted. No reduction in milk yield of normal cows resulted from penicillin therapy, though a proportion of "light" quarters has been noted in clinical cases that have responded to treatment.