

CARCASE AND OFFAL CONDEMNATIONS IN IRISH EXPORT SLAUGHTERHOUSES (1980 - 1994)

Ms. Catherine Lawler, M.V.B.

Department of Large Animal Clinical Studies, Veterinary College of Ireland, Ballsbridge, Dublin 4, IRELAND.

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Objectives : The aims of this study were, and are, to identify the reasons for losses in the Irish beef industry, with particular emphasis on in-plant carcase, part-carcase and offal condemnations. A prototype data entry and analysis programme is under development for official use; if slaughterhouse condemnation data can be accurately recorded and the producer informed of the findings via regular reports, the producer, processor and the Irish beef industry should benefit.

Background : To date, in the Republic of Ireland, little use has been made of slaughterhouse condemnation data. Recording sheets are completed on a monthly basis, and returned to the Department of Agriculture, Food and Forestry, where the data are manually recorded into master datasheets.

Methods : Examination of national returns from the export slaughterhouses of condemnations of carcasses, part - carcasses and offal, was performed for the period 1980 - 1994 inclusive. A mean of 20 - 25 returns were submitted per month, with plant ownership changing during the period of the study. The data were recorded and analysed using the Statview software package. Currently, individual plant returns, from 1991, are being analysed in a similar fashion. Data retrieval on carcase, part-carcase and offal condemnation yielded approximately 60 pathological conditions, which we grouped into 12 categories.

Results : During the period of the study, 18,566,888 cattle were slaughtered in the plants studied, with steer beef accounting for an average of almost 60% of Irish beef production for export. (Table 1)

Table 1: Mean Number of Animals Slaughtered Per Annum. (1980 - 1994.)

Steers	745,242	(59.7%)
Cows	305,272	(24.5%)
Heifers	187,278	(15.0%)
Bulls	10,792	(0.8%)
Total	1,248,584	(100.0%)

The 60 pathological conditions recorded as reasons for condemnation were grouped into 12 categories. (Table 2)

Table 2: Condemnation Categories

- | | |
|--------------------------|---------------------------------------|
| 1. Oedema / Emaciation. | 7. Poor carcase setting. |
| 3. Septicaemia. | 8. Neoplasia. |
| 4. Tuberculosis. | 9. Putrefaction. |
| 5. Abscessation. | 10. Residues. |
| 6. Cardiac / Thoracic. | 11. Actinomycosis / Actinobacillosis. |
| 7. Poor carcase setting. | 12. Other. |

The peak throughput of cattle was recorded in the autumn, with the peak in percentage condemnations evident in the spring. (Figures 1 and 2)

Figure 1: Mean Monthly Number of Cows Slaughtered (1980-1994)

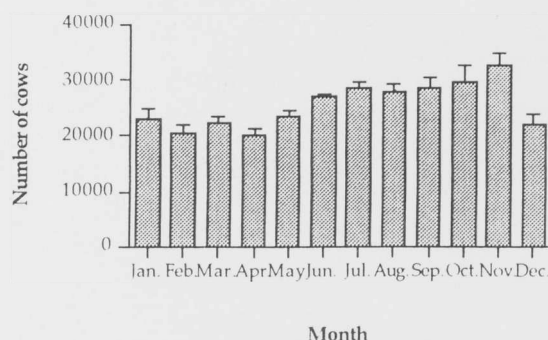
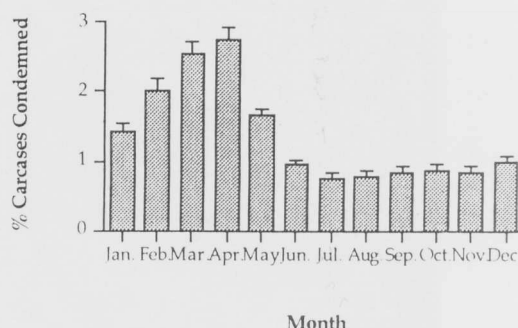


Figure 2: Mean Monthly Percentage of Cow Carcasses Condemned (1980-1994)



The seasonal effect noted was similar upon examination of specific conditions , such as oedema/ emaciation , trauma, septicaemia and cardiac / thoracic conditions .

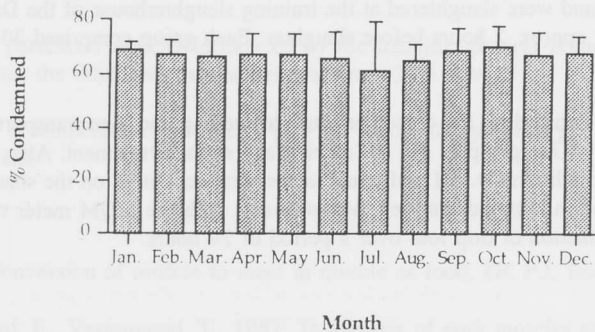
Analysis of variance resulted in the conclusion that , for certain pathological conditions , season had a significant effect on the percentage condemnations attributed to such conditions . (Table 3)

Table 3 : Seasonal variation in frequency of condemnation rates (1980 - 1994)

Condition	Significance		
	Cows	Heifers	Steers
Oedema/Emaciation	p<0.001	p<0.01	p<0.001
Trauma	p<0.001	p<0.05	p<0.001
Septicaemia	p<0.001	N.S.	p<0.05
Abscessation	p<0.001	N.S.	p<0.001
Cardiac/Thoracic	p<0.001	N.S.	N.S.
Putrefaction	p<0.001	N.S.	N.S.
All conditions	p<0.001	p<0.01	p<0.001
Number slaughtered	p<0.001	p<0.005	p<0.001

Contrary to expectation , given the Irish climate and knowledge of the *Fasciola hepatica* life cycle , no significant seasonal variation in the rate of liver condemnation was evident , with up to 40 % of total livers , including up to 67% in cow livers , being rejected . (Figure 3)

Figure 3 : Mean Monthly Percentage of Cow Livers Condemned (1980 - 1994)



Conclusions The principle conditions responsible for condemnation were found to be oedema / emaciation , trauma / bruising , septicaemia and tuberculosis .

The peak in percentage condemnations in the spring may be a function of the lower rate of throughput and , hence , more efficient meat inspection , and the fact that such animals have been housed during the preceding months and , as such , are more susceptible to conditions such as trauma , pneumonia and other health problems precipitated by group housing . During the spring months , Irish cows may be in poor in body condition as a consequence of the demands of pregnancy , lactation and associated metabolic diseases .

Contrary to expectation , no significant seasonal variation was evident in the rate of liver condemnation . The condition may often only be detected at the abattoir . With the benefit of information feedback , the farmer and his veterinary surgeon may use this information to plan a strategic antehelminthic and pasture management programme for the year ahead . The high rate of liver condemnation recorded may not be wholly attributable to *Fasciola hepatica* ; in some cases , plant policy dictated the rejection of livers for use in the human food chain .

Variation was observed between abattoirs in terms of the terminology used by individual inspectors , the judgements made in respect of the pathology of the carcasses and the accuracy of the recording of such information . Efficient use of abattoir data requires a standardized terminology , accurate recording of information and feedback of this information to the producer .