

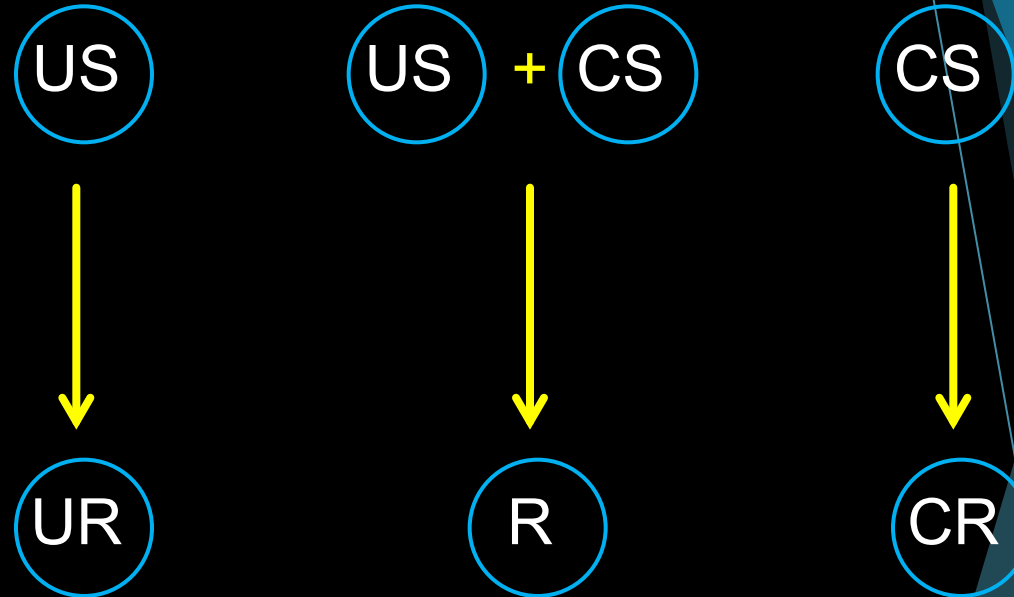
# Effect of pre and postnatal learning strategies in extinction of conditioned taste aversion for pine leaves in sheep

Jaime Figueroa, Marcelo Quezada, Laura Quezada, Miguel González, Rocío Angulo





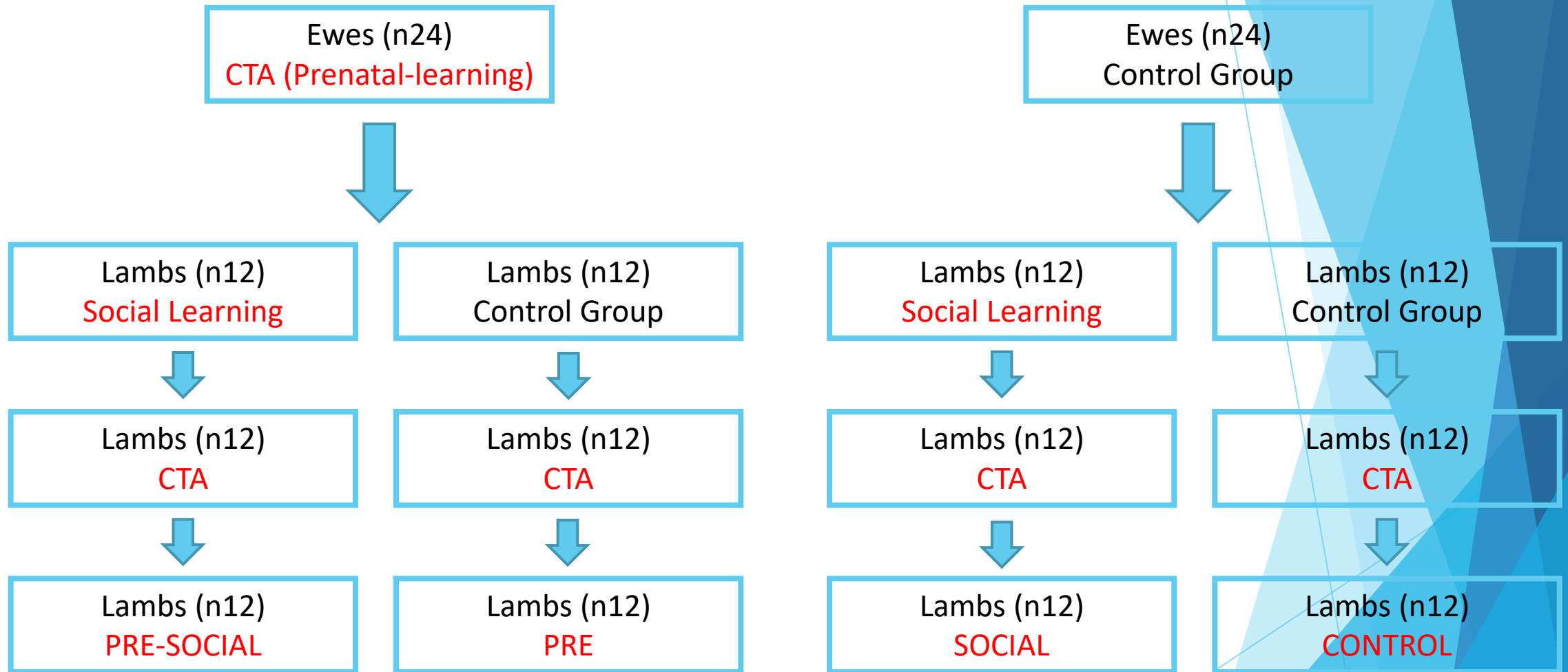
# Conditioned taste aversion (CTA)



" When two things usually occur together, the appearance of one will bring the other to mind ".

Aristóteles

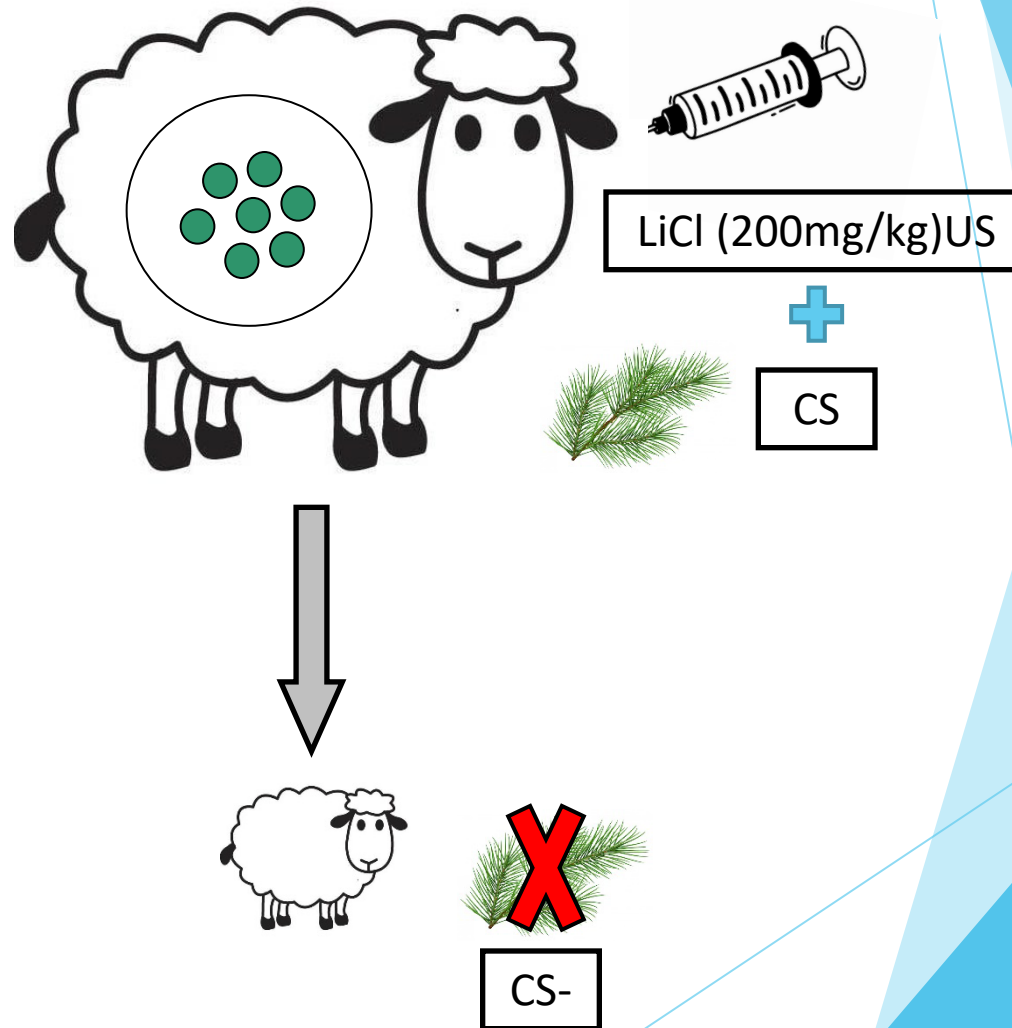
# Experimental Design





End of the gestational period

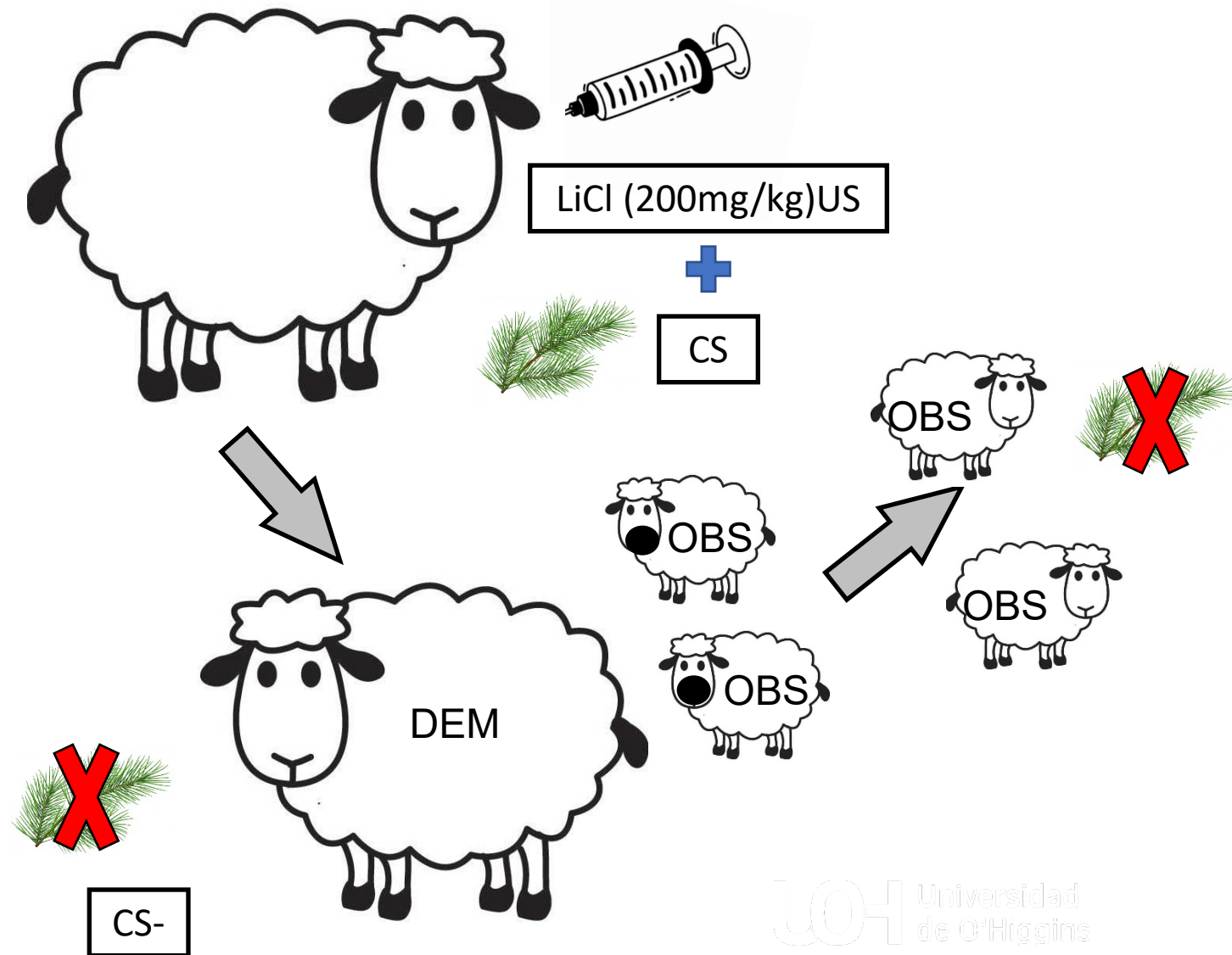
# Prenatal Learning





1 week after weaning  
1h interaction am and pm for 2 days

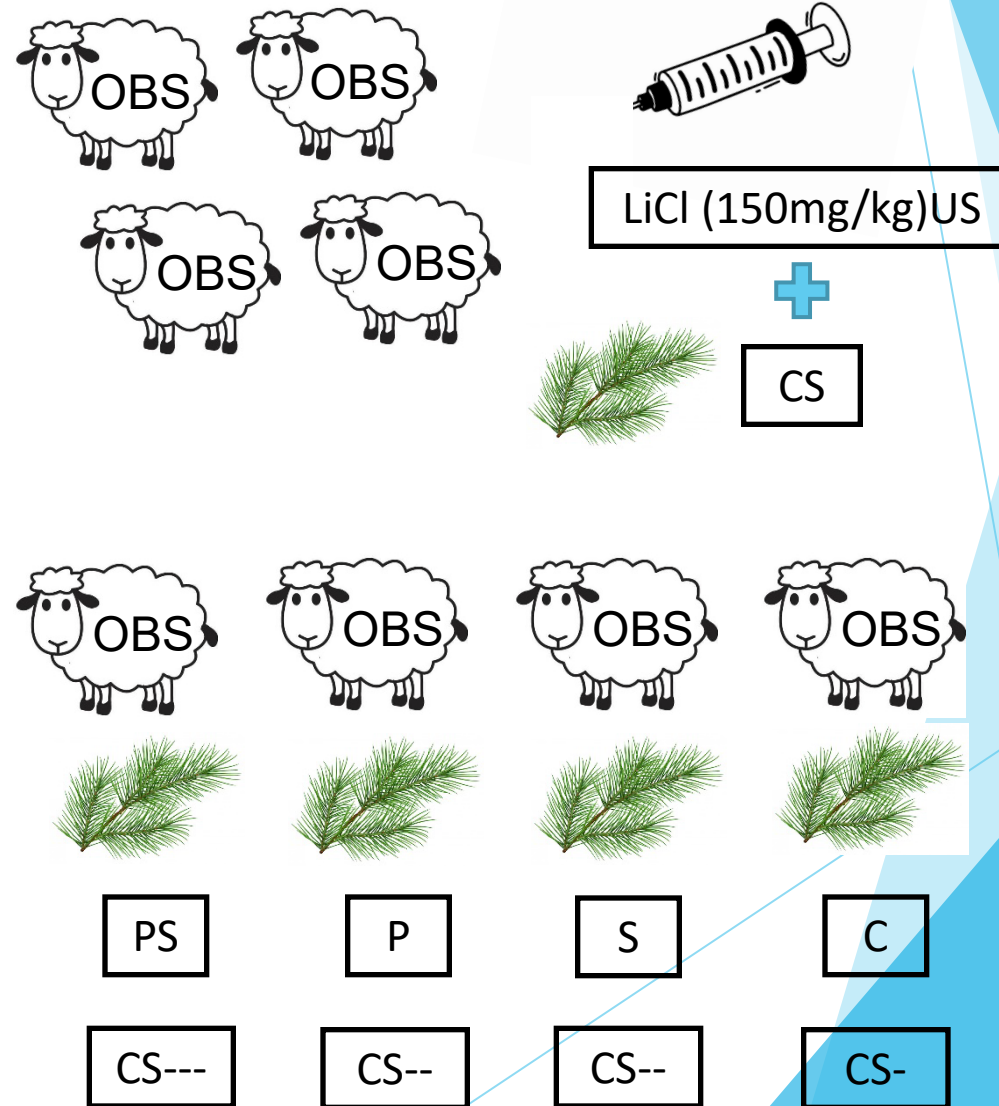
# Social Learning



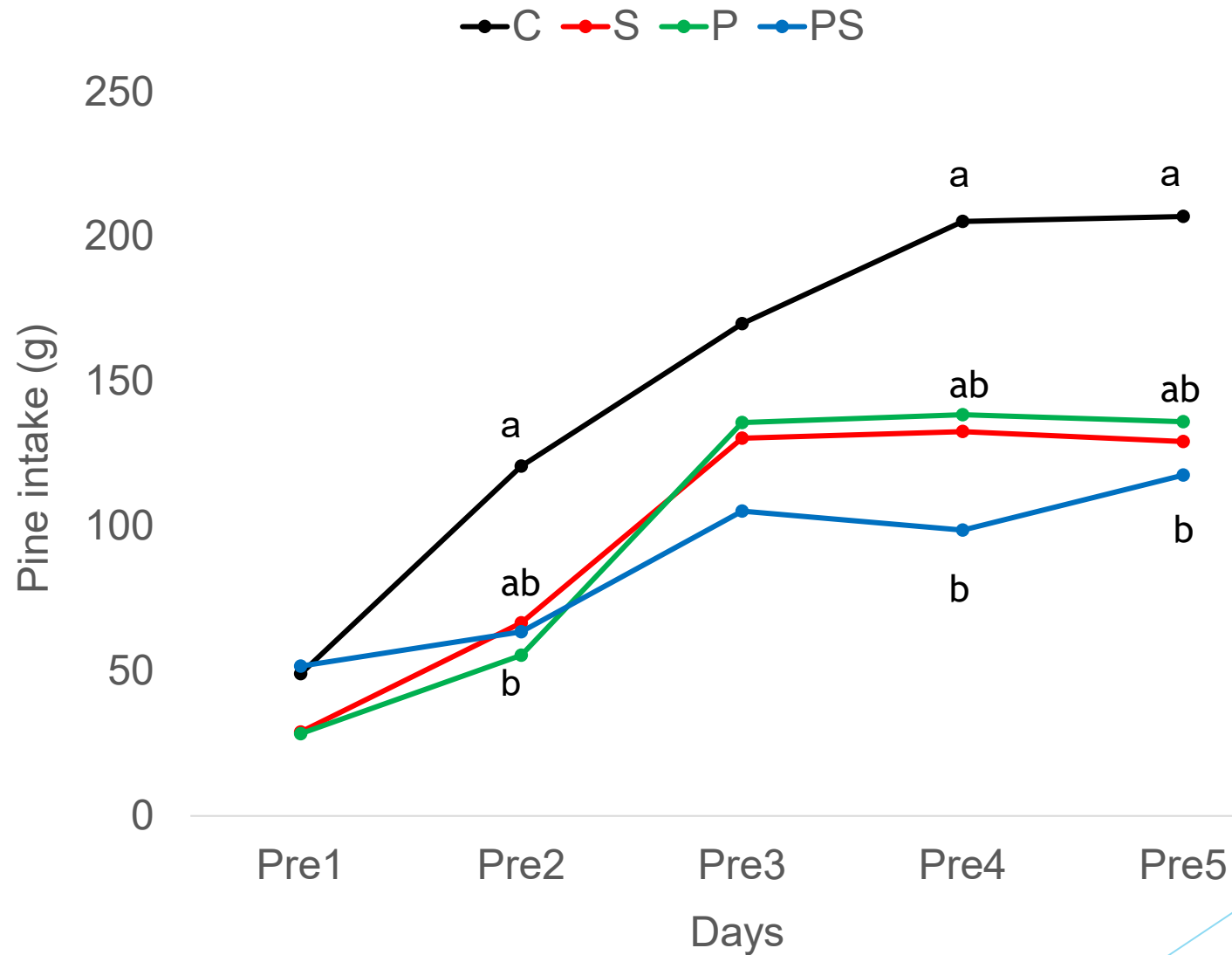


2 week after weaning  
CTA and extinction

# CTA



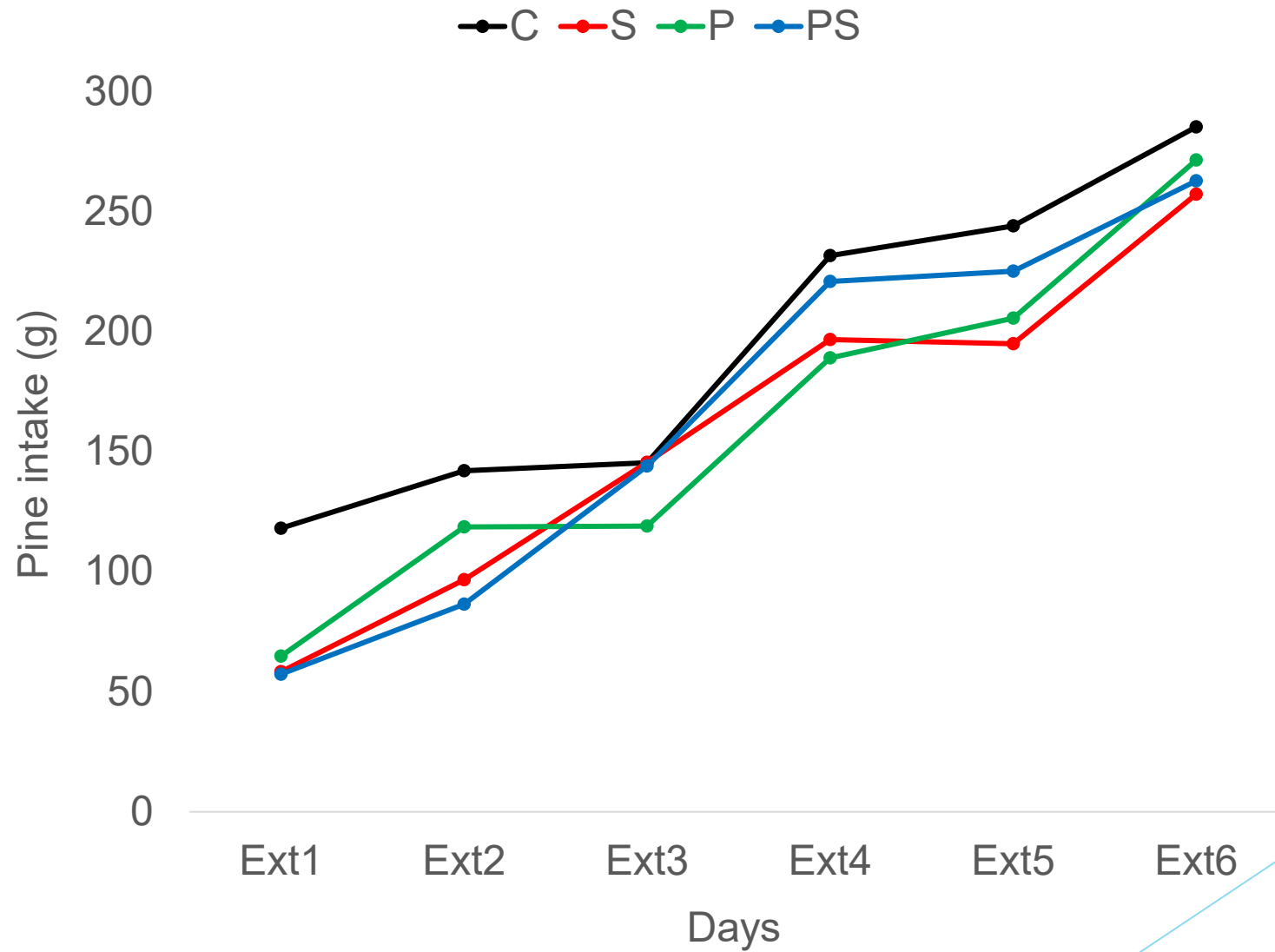
# Results: Pre-exposure



# Results: Pre-exposure (Treat x Sex)

| Treatment | Sex    | Pre1    | Pre2     | Pre3     | Pre4     | Pre5     |
|-----------|--------|---------|----------|----------|----------|----------|
| C         | Female | 54±13,6 | 103±19,2 | 158±28,7 | 151±29,5 | 187±29,1 |
|           | Male   | 43±20,4 | 138±28,9 | 181±43,1 | 259±44,3 | 226±39,2 |
| S         | Female | 21±14,4 | 62±20,4  | 121±30,4 | 125±31,3 | 130±27,7 |
|           | Male   | 37±20,3 | 70±28,9  | 139±43,1 | 139±44,3 | 128±27,7 |
| P         | Female | 21±16,7 | 53±23,6  | 122±35,2 | 130±36,2 | 103±32,0 |
|           | Male   | 35±18,3 | 57±25,8  | 149±38,5 | 146±39,6 | 169±35,1 |
| PS        | Female | 38±15,4 | 43±21,8  | 76±32,5  | 89±33,5  | 82±29,7  |
|           | Male   | 64±18,3 | 83±25,8  | 133±38,5 | 107±39,6 | 153±35,1 |

# Results: Extinction



# Results: Extinction (Treat x Sex)

| Treatment | Sex    | Ext1     | Ext2     | Ext3     | Ext4                   | Ext5                   | Ext6                   |
|-----------|--------|----------|----------|----------|------------------------|------------------------|------------------------|
| C         | Female | 82±19,9  | 122±23,3 | 123±27,3 | 241±33,7               | 249±36,5               | 291 <sup>b</sup> ±33,8 |
|           | Male   | 153±29,9 | 161±34,9 | 167±41,0 | 222±50,5               | 238±54,8               | 278±50,7               |
| S         | Female | 34±21,1  | 90±24,7  | 159±29,0 | 223±35,7               | 200±38,7               | 263±35,8               |
|           | Male   | 82±29,9  | 103±34,9 | 131±41,0 | 169±50,5               | 189±54,8               | 251±50,7               |
| P         | Female | 66±24,4  | 103±28,5 | 136±33,5 | 166±41,2               | 186±44,7               | 252±41,4               |
|           | Male   | 62±26,7  | 133±31,2 | 101±36,7 | 221±45,2               | 224±49,0               | 290±45,3               |
| PS        | Female | 11±22,6  | 43±26,4  | 89±31,0  | 124 <sup>a</sup> ±38,2 | 127 <sup>a</sup> ±41,4 | 144 <sup>a</sup> ±38,3 |
|           | Male   | 103±26,7 | 129±31,2 | 198±36,7 | 316 <sup>b</sup> ±45,2 | 332 <sup>b</sup> ±49,0 | 380 <sup>b</sup> ±45,3 |



## Conclusions

- Prenatal and social learning of CTA may decrease the intake of the CS- in weaned lambs
- The sex of lambs could have an effect on CS- intake during the extinction of CTA, specially when prenatal and social strategies are included
- Learning strategies could be added to classical CTA to retard its extinction in agricultural systems

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