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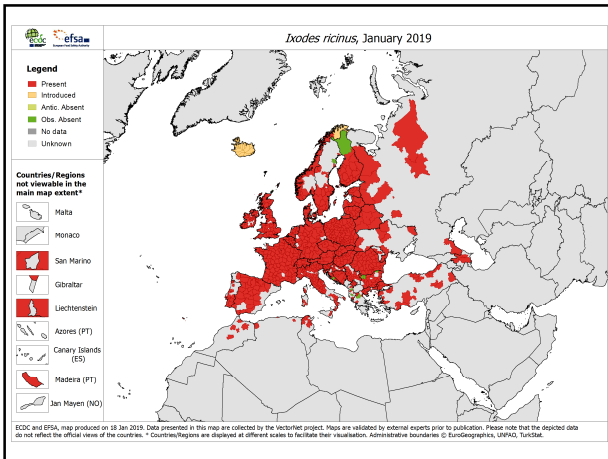
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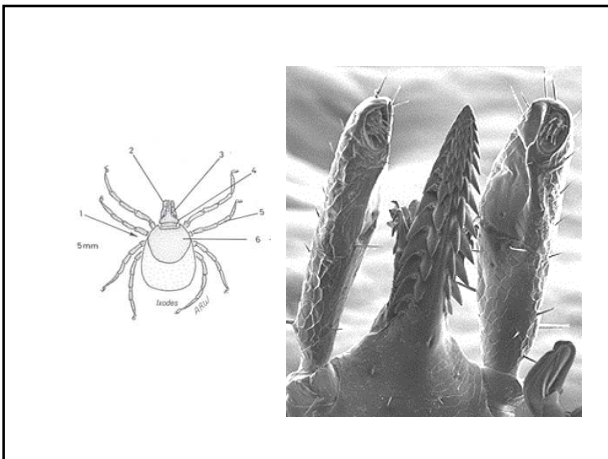
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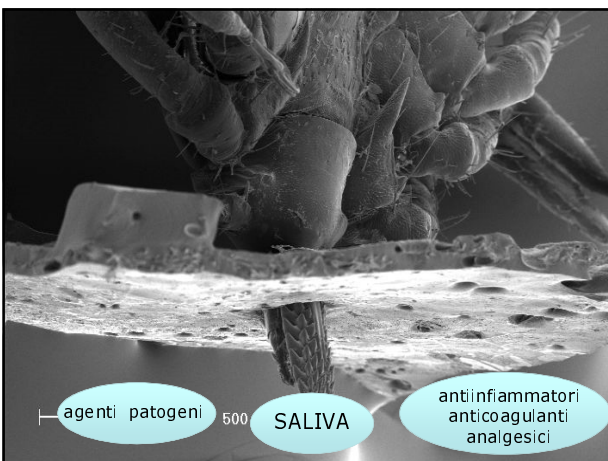
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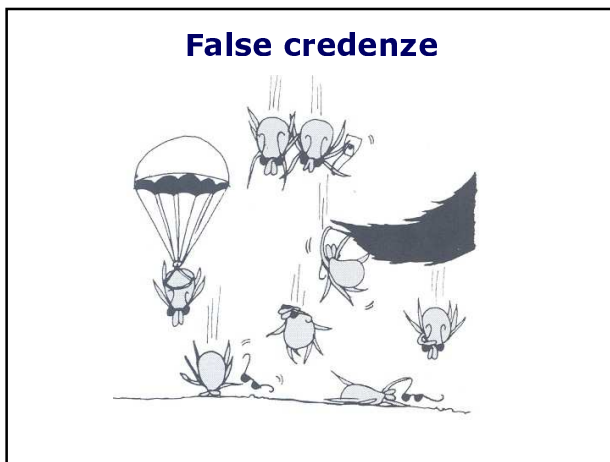
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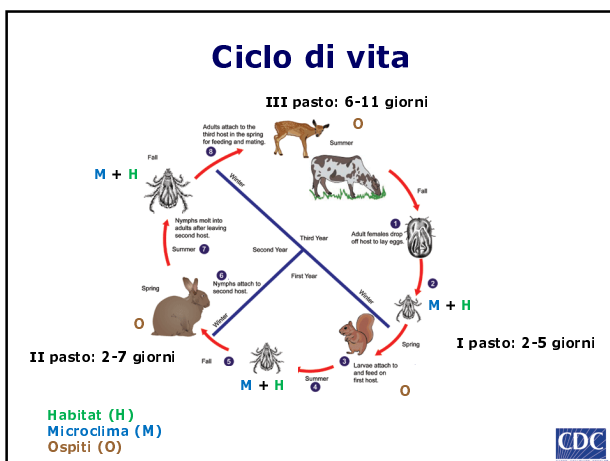
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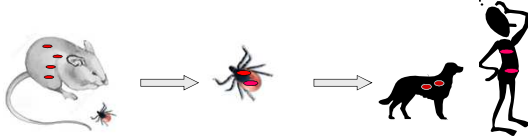
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## Ciclo naturale




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## Aumento delle zecche ?

- Percezioni/studi/dati confermano aumento
  - Latitudine (verso nord)
  - Altitudine (1'500 msl)
  - Consultazioni dovute alle morsicature (UFSP)
    - 2017 **23'000** vs 2018 **32'400**
  - Casi di zoonosi (UFSP)
    - Borreliosi: 2017 **8'000** vs 2018 **14'000**
    - FSME: 2017 **252** vs 2018 **375**

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## CAMBIAMENTI CLIMATICI

**HABITAT:** bosco (bassa vegetazione)

**MICROCLIMA:** HR >80% e T°C 7 - 25

Animali di diversa taglia (= **OSPITI**)

## ATTIVITÀ DELL'UOMO

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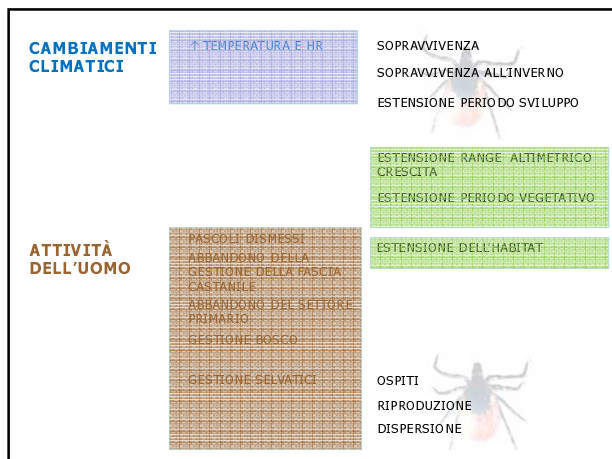
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### Patogeni in Ticino

| Patogeno                                | Malattia                   | Prevalenza TI (anno)       | Prevalenza CH/EU                                          |
|-----------------------------------------|----------------------------|----------------------------|-----------------------------------------------------------|
| <i>Anaplasma phagocytophilum</i>        | Anaplasmosi (U/Vet)        | 0.9% (2000)                | EU <1% -20%<br>CH 1.2-2%                                  |
| <i>Babesia divergens</i>                | Babesiosi (U/Vet)          | 0.5% (2006)                | EU 0.2-3%                                                 |
| <i>Babesia venatorum</i> (EU1)          | Babesiosi (U/Vet)          | 0.5% (2006)                | EU 0.4-1.3%                                               |
| <i>Babesia canis</i>                    | Babesiosi (U/Vet)          | 1.5% (2004)                | CH 0.8%                                                   |
| <b><i>Borrelia burgdorferi</i> s.l.</b> | Borreliosi di Lyme (U/Vet) | <b>26.2% (2015)</b>        | CH 5-30%                                                  |
| <i>Francisella tularensis</i>           | Tularemia (U/Vet)          | 0.2% (2000)<br>0.2% (2015) | CH presente                                               |
| <i>Rickettsia helvetica</i>             | Febbre (U)                 | Presente (1994)            | CH 7.3-14%<br>CH 13.2% (2017)<br>D + Slovacchia 2.2-30.1% |
| <b>Virus FSME</b>                       | FSME (U/Vet)               | <b>0.35% (2015)</b>        | EU 0.1-5%<br>CH 0.5-3%                                    |

**20% zecche vettore di >1 patogeno**

**Tularemia**  
 - aumento di casi in CH (ZH/SG/AR)  
 - 2010-2016 media di 30 casi/anno  
 - 2017 con 131 casi e 2018 con 121 casi  
 - 2015 1 caso in Ticino

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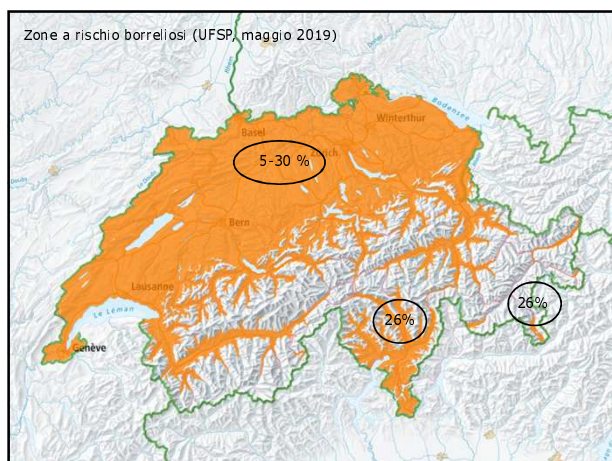
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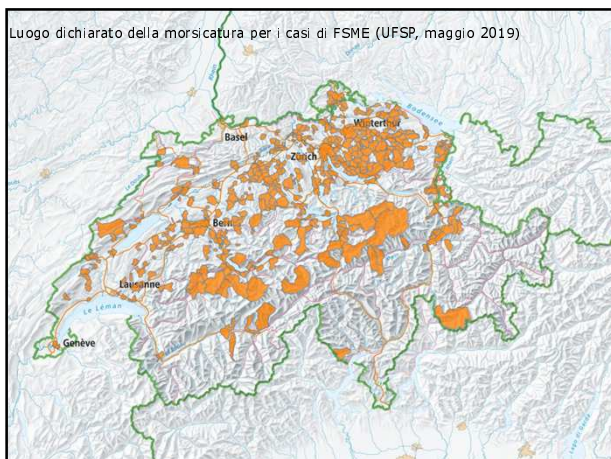
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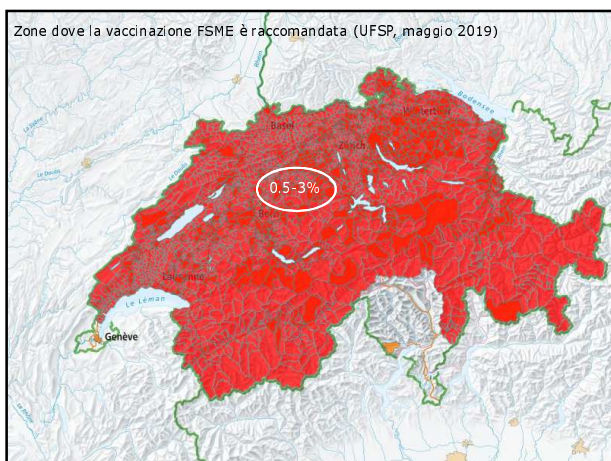
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### Virus FSME

- Distribuzione irregolare a macchie di leopardo
  - focolai
  - CH 0.5-3%
  - EU 0.1-5%
- Trasmissione del virus
  - NON efficiente
    - reservoir (roditori e insettivori) e zecche
  - co-feeding
    - passaggio del virus tra le zecche

Ufficio del medico cantonale

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## Virus FSME

- Altri animali
  - capre, bovini, pecore, cervi, cinghiali, ecc.
  - asintomatici
  - viremia molto BASSA e breve
  - NO trasmissione del virus
  - presenza di AC a lungo termine (anni)
    - animali sentinelle



Ufficio del medico cantonale

## Progetto zecche 2014-2015

- Monitoraggio e sorveglianza
- UMC in collaborazione con CNRT (Labor Spiez)
- Raccolta zecche su tutto il territorio TI
  - 12'004 *Ixodes ricinus*
- Agenti patogeni ricercati nelle zecche
  - *Borrelia* (26%)
  - *Coxiella burnetii* (0%)
  - *Francisella* (0.2%)
  - Virus FSME (Valle Maggia 0.35%)



Ufficio del medico cantonale

## Progetto sieri capre 2016

- Confermare la presenza del virus in Ticino
- Capra =animale sentinella
- Sieri disponibili 2014-2016 (sorveglianza UVC)
  - 662 sieri/37 aziende
  - capre nate in TI e mai uscite dal TI
- Analisi AC (ELISA e test di conferma SNT)

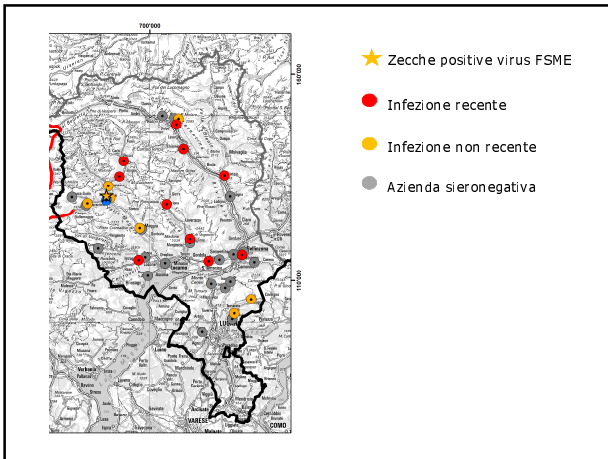
sieroprevalenza 14.6%

[AC] elevata = infezione recente = focolaio attivo



Ufficio del medico cantonale






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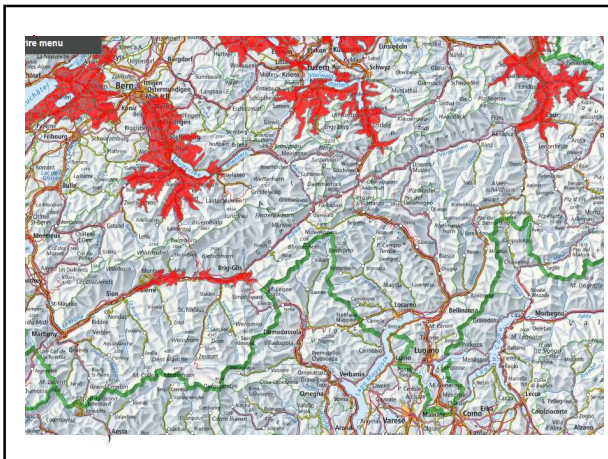
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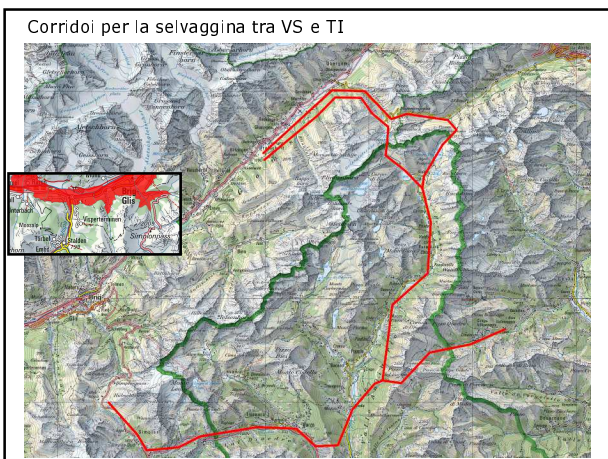
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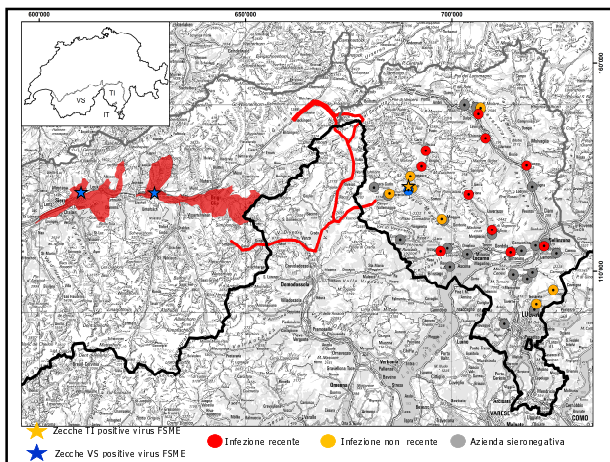
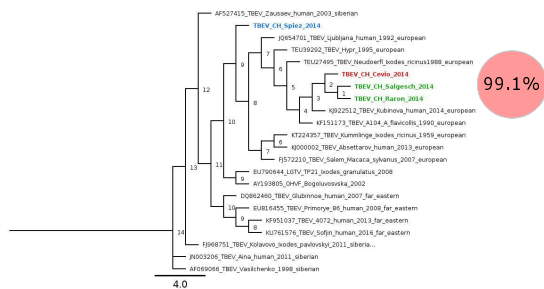
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## Analisi filogenetica virus FSME



## Progetto sieri uomo 2017

- Verificare il contatto tra virus FSME e uomo
- Studio validato dal Comitato etico
- Target = allevatori della Valle Maggia
  - 51/69 (74%)
- Sondaggio
  - NO vaccinazione contro FSME
  - Contatti con zecche
    - » 2016: 100%
    - » 2017: 77%
  - Consumo di latte crudo di capra (42%)
- Analisi AC

sieroprevalenza 0%



Ufficio del medico cantonale

## Conclusione studio FSME\*

- presente in alcune zone del Ticino
- circola in natura in piccoli focolai distribuiti in modo discontinuo e in luoghi discosti raggiunti facilmente dalle capre
- la sua presenza non si è ancora tradotta in infezioni ma potrebbe essere solo una questione di tempo
- ulteriori studi devono essere pianificati

UFSP: TI non è una zona a rischio

\*Casati Pagani et al. 2019. First detection of TBE virus in virus ticks and sero-reactivity in goats in a non-endemic region in the southern part of Switzerland (Canton of Ticino). Ticks and tick-borne diseases.



Ufficio del medico cantonale

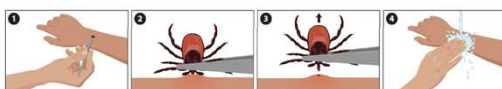
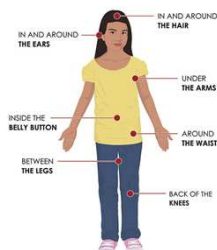
## Prevenzione



Ufficio del medico cantonale

## Prevenzione

- Controllare i vestiti all'entrata
  - ruotare
- Togliere i vestiti all'entrata
  - lavarli
- Controllare tutto il corpo
  - doccia
- Rimuovere immediatamente la zecca





Grazie, per l'attenzione!

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