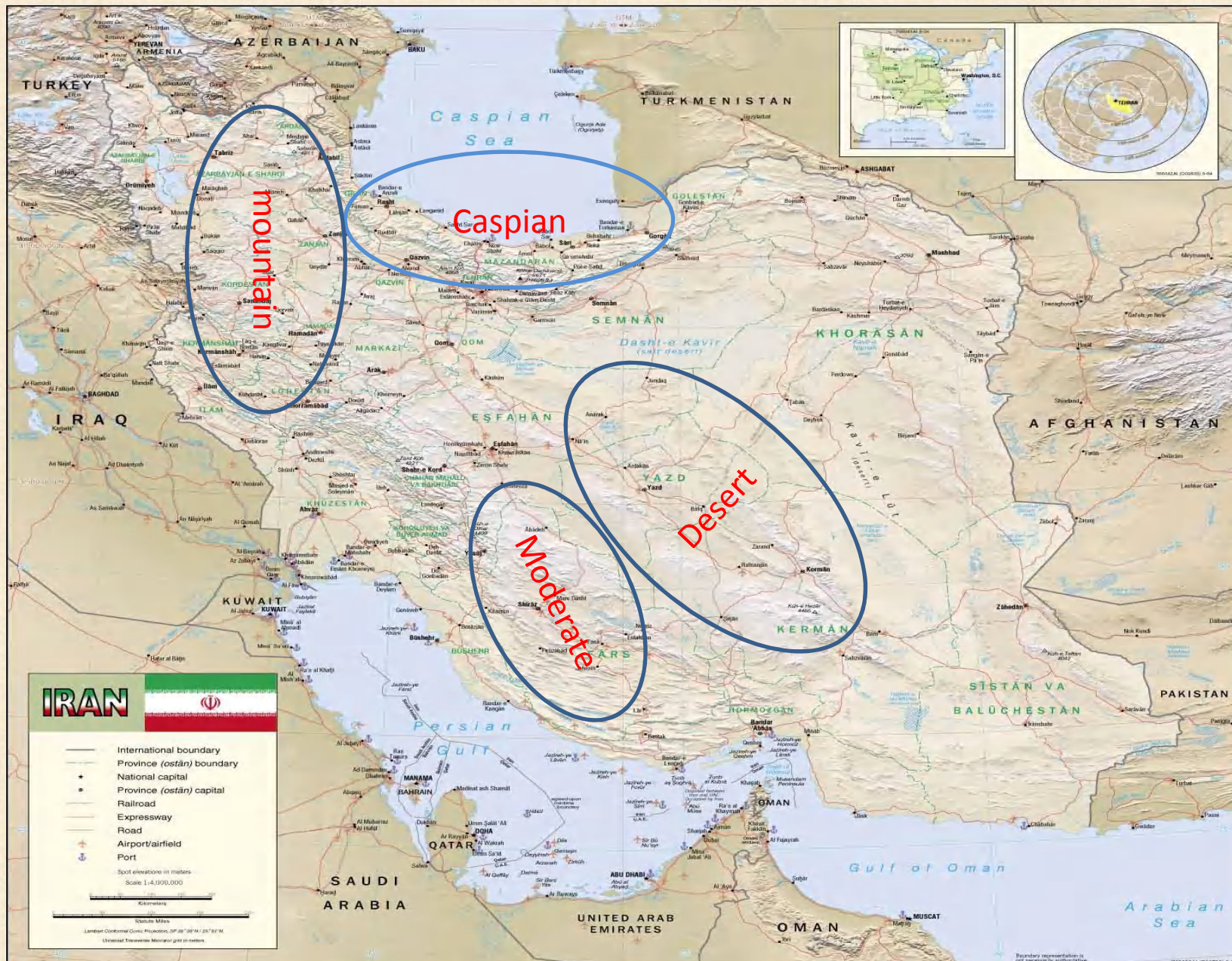


Prevalence of Nosema in 4 Geographical Ecozone of I.R.Iran



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Iran Veterinary Organization
Sept. 2011

4 determined Geo-Ecozone



Material And Methods

- 2 Stage Simple Random Sampling to determine the Apiaries.
- Expected Prevalence intra and inter Apiaries : 15% , 10 % respectively.
- Content of digestive tract of 25 bees mixed with 2 cc distilled water and examined for spores.
- Results are interpreted according to :
 - 1-10 spores = +
 - 11-20 spores = ++
 - 21-30 spores = +++
 - 31-40 spores = ++++

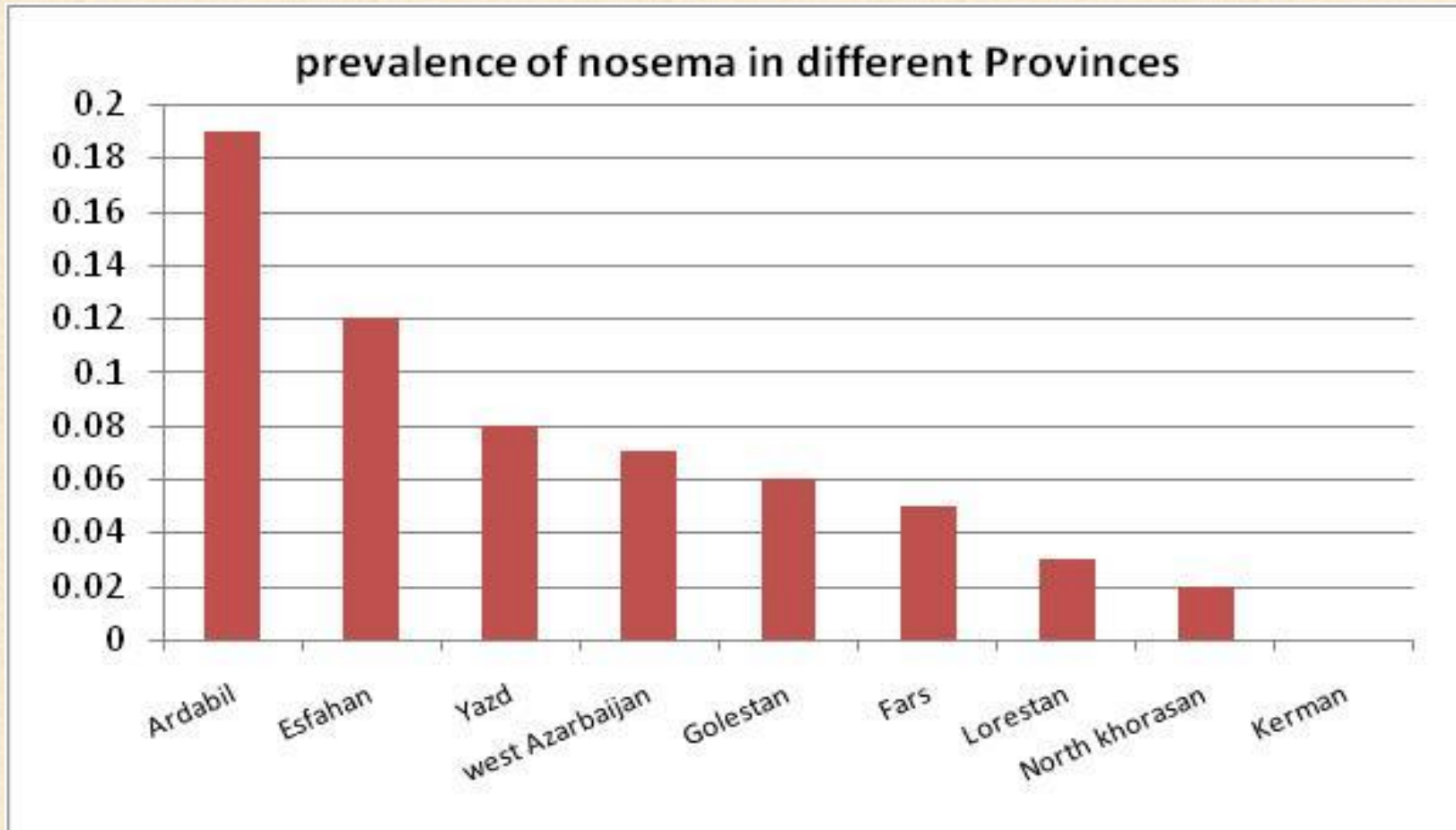
Material & methods (cont.)

No. of colonies sampled in each province of Ecozones	
No. Colonies visited	Province
488	West Azarbaijan
346	Ardabil
159	Esfahan
445	North Khorasan
665	Fars
54	Kerman
317	Golestan
150	Lorestan
137	Yazd
2273	total

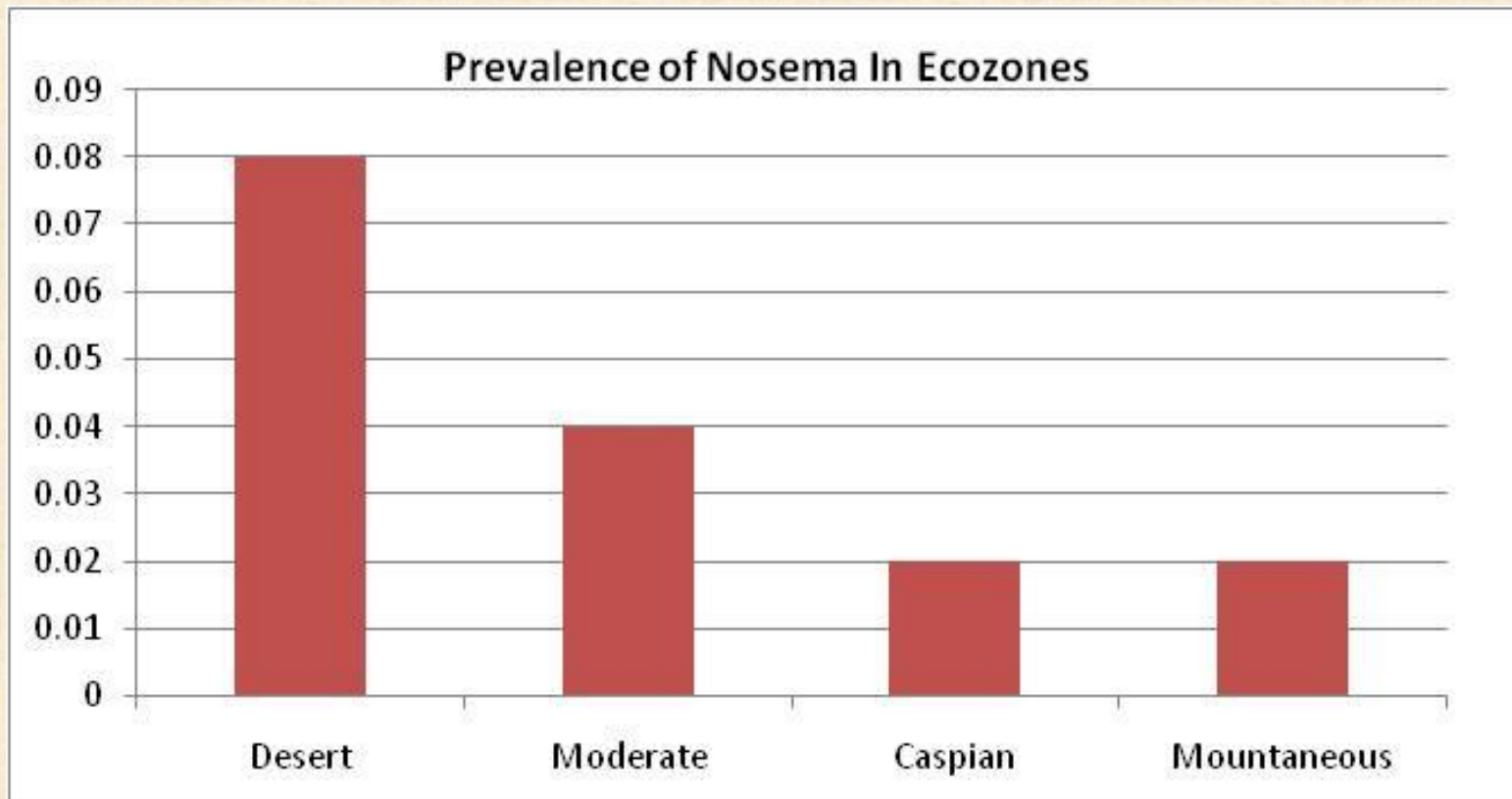
Results

Results of test on different samples in different Provinces of Geo-Ecozones									
Prevalence	Positive	Total	W	negative	++++	+++	++	+	provinces
0.07	33	488	20	435	0	0	7	26	west Azarbaijan
0.19	65	346	1	280	17	14	19	15	Ardabil
0.12	20	159	9	130	0	3	9	8	Esfahan
0.02	9	445	1	435	1	2	3	3	North khorasan
0.05	35	665	20	610	0	8	23	4	Fars
0	0	54	0	54	0	0	0	0	Kerman
0.06	19	317	9	289	2	3	12	2	Golestan
0.03	4	150	3	143	0	2	1	1	Lorestan
0.08	11	137	4	122	1	1	5	4	Yazd
0.07	163	2273	38	1933	21	33	72	37	Total
W=without information									

Prevalence of Nosema in Provinces

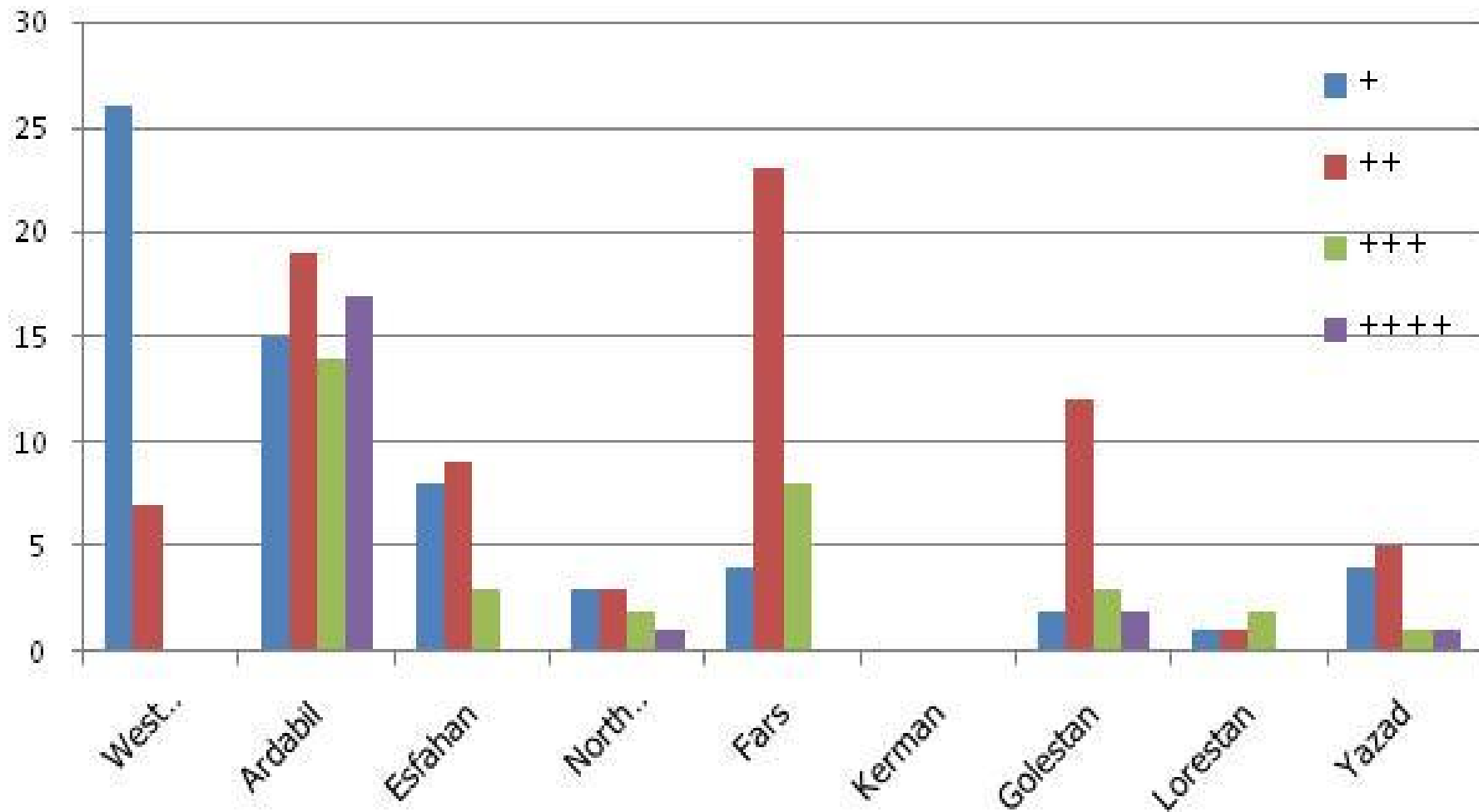


Prevalence of Nosema IN Geo - Ecozones



Comparison of severity of Nosema in different Provinces

severity of infection of Nosema in different provinces



Conclusion & Discussion

- For many years the country is affected, but this report is the first about prevalence of disease.
- Among the Provinces , Ardabil (in mountaneous area) is the most affected and the kerman (in desert Ecozone) is the least affected.
- In Ardebil Framers use Sugar for feeding the bees in a large scale. Movement, density of farms, and low distance between farms are important risk for affection.
- Rate of infection in desert area(mainly Yazd) was unexpected and . Therefore more laboratory investigation showed presence of *Nosema ceranea* in Iran.

Conclusion & Discussion

- Because of different Geographical conditions in Iran , more investigation needed for honey bees diseases.
- There is some evidence of CCD disease in Iran, there may be a positive correlation between *Nosema ceranea* and this syndrome.

Thank you for your attention