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 Austad, 1990; Baudry *et al.*, 2000a; Baudry and  
 Jouin, 2003 ; Burel, 1996; Forman & Baudry,  
 (1984 ; INRA, 1976

(Naveh,1994)

"  
 Baudry & Jouin, 2003 ; ) "  
 (Marguerie *et al.*, 2003

(Burel & Baudry,1999)

Agger & Brandt,1988; )  
 (Burel & Baudry,1999

(Meynier,1970)

Barr, )  
 (1993 ; Hegarthy *et al.*,1994 (Marguerie *et al.*, 2003 ; Meynier, 1970)

(Rackham,1986)

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Gordon (Birks *et al.*,1988)

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<sup>1</sup> Cultural Landscape  
<sup>2</sup> Landscape Green Veins

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Forman

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Forman & )

(Godron, 1986

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Pollard

Barre .(Pollard *et al.*, 1974)

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(Barr, 1993)

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(Rozas, 2004)

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(Thenail, 2002) Thenail

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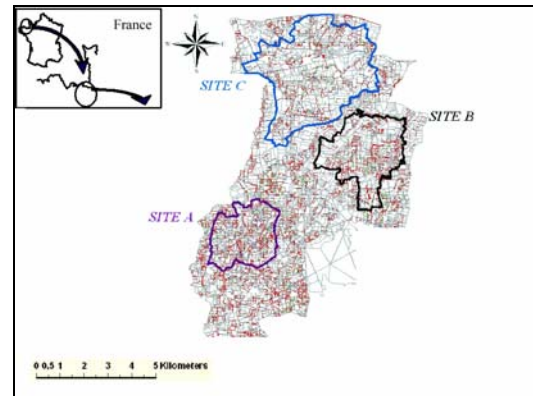
B

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T-Student ( )  
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(2000) (Ryan and Joiner, 1994) Minitab

<sup>1</sup> IGN: Institut Géographique National

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<sup>2</sup> Hedgerow Network

<sup>3</sup> Patches

<sup>4</sup> Connectivity

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/	/	/	/	/	(Km)
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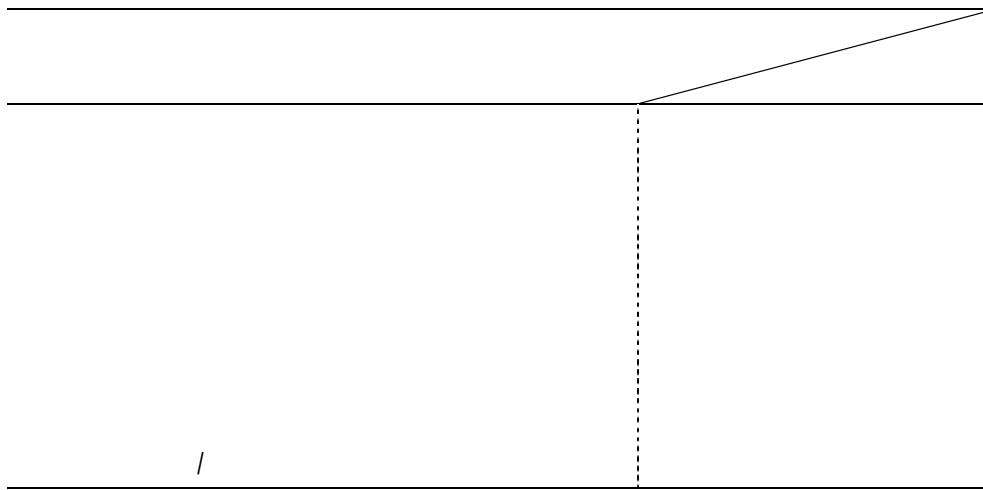
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(m/ha)	(Km)	( )
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		B
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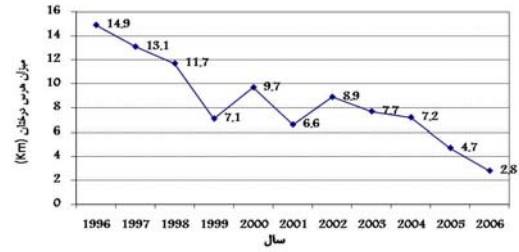
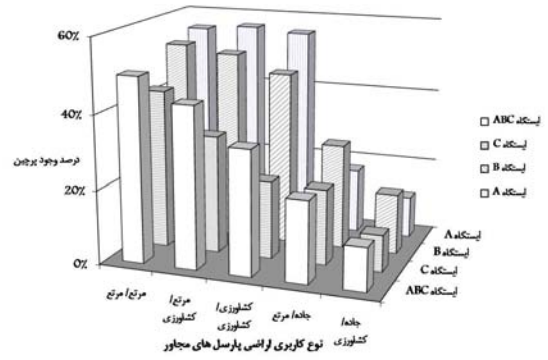
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Thenail, )

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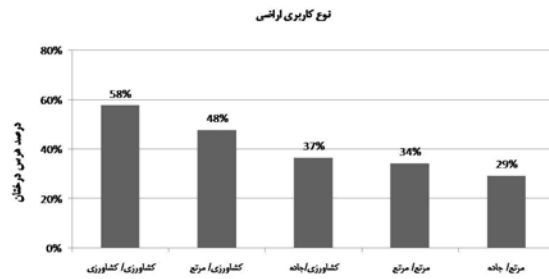
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<sup>1</sup> Cash Crop Farm

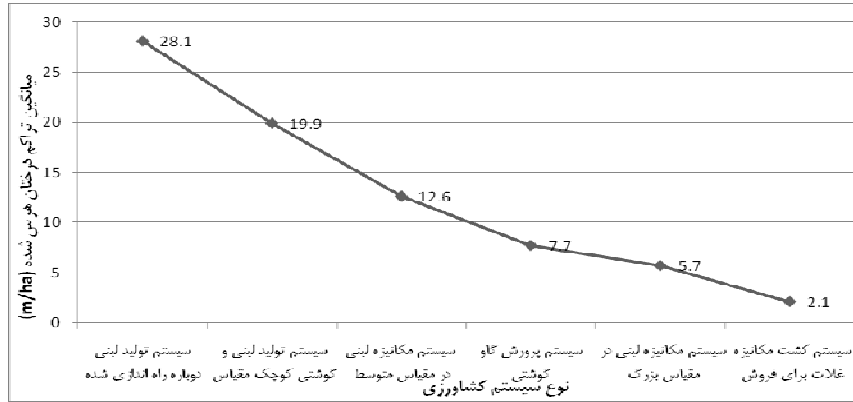
<sup>2</sup> Large Specialized Dairy Farm

<sup>3</sup> Medium Specialized Dairy farm

<sup>4</sup> Small Diversified Dairy Farm

<sup>5</sup> Farm after dairy production cessation

<sup>6</sup> Meat Cattle Farms



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(Thenail, 2002)

(Guibal & Bernard, 2002 ; Pollard *et al.*,1974)

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Thenail, 2002; Burel & Baudry, )

(1990; Burel *et al.*, 2000

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Martin & Rovéra,1998 ; )

(Hegarthy *et al.*, 1994

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## **Ecological Evaluation of Landscape Structure to Understand the Role of Farmers and Agricultural Policy on the Landscape Sustainability**

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### **Abstract**

Agricultural landscapes with the green veins and forests patches are forming many parts of European landscapes. In spite of many ecological, economic and agricultural advantages of these elements, they have been changed due to agricultural intensification. We studied changes of these elements, their relations with agricultural activities, farming systems and land use of the adjacent parcel in the western of France. Furthermore, a sociological study has been conducted to understand the role of agricultures in management of landscape. Data analyses with using the aerial photographs in two scale times have been done in geographical information system. The results of long time scale approach indicate a 64 % decrease in green veins, 45% decrease in forest patches and a great increase (71 percent) in fragmentation forest patches. We observed the decline of ecological value of landscape, related to quality and quantity of landscape connections (70%). The direct relations between a land use type and farming exploitation system show that farmers have key role in shaping landscape and its structure. The socio-economic study indicates that the economic importance of hedgerows has been declined. To conserving these structures and suitability of landscape, it is recommended to integrate the landscape guidelines in agricultural policy in national scale (France) and in European scale (CAP).

**Keywords:** Landscape network of green veins, Landscape changes, Aerial photographs, Farming system