



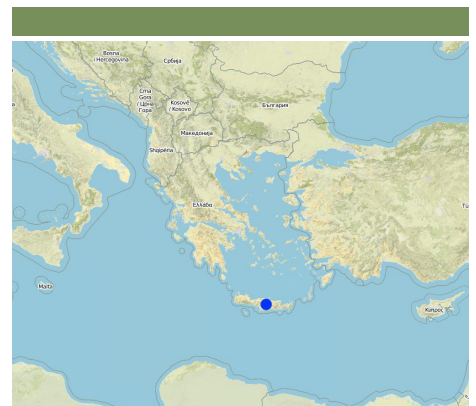
Vineyard cultivated in a sloping land in which the soil has been formed in ridges for interrupting surface water runoff. (Costas Kosmas)

Soil erosion control by ridges ()

Καλλιέργεια αμπέλου σε μικρούς αναβαθμούς

The technology consists of shaping the land in small ridges followed an interspaced part in which the main cultivation work of the crop is carried out. Ridges are the place where the plants are growing.

The technology is mainly applied in cultivated land, preferable in vineyards. The main characteristics are (a) shaping the land in ridges of about 25 cm high and 35 cm wide (b) leaving an interspaced part of the land of 200-220 cm. Ridges are the place where the plants are growing, while the interspaced part is used for carrying out all the necessary cultivation practices and harvesting of grapes. The purposes of the technology is to interrupt surface water runoff and to carry out easily the various cultivation works. It can be applied in a sloping land with slope gradient not higher than 12%. The major activities to establish the technology are to use a machine (a tractor) with the appropriate cultivation instrument (a plate) for shaping the land. The benefits of the technology are: (a) reduction in soil erosion, and (b) easily carrying out the various cultivation practices. The land users like it since their work is carrying out easily and store water runoff in the rootzone.

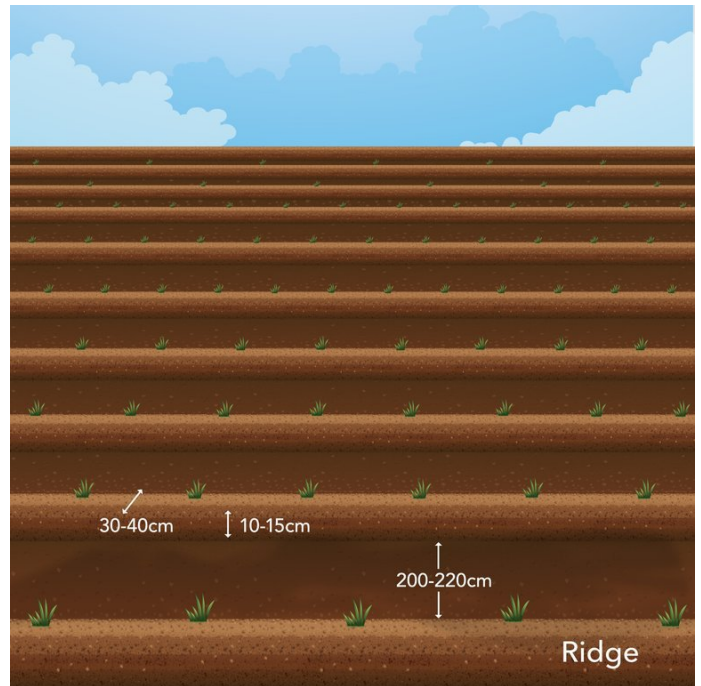


: Heraklion prefecture, Crete,

:
 :
 25.04989, 35.19663
 : (approx. < 0.1
 2 (10))
 ?:
 : 10-50

 (> 50)
 /

The ridges are shaped by a tractor using a plate with an angle of 30° with respect the line of cultivation. The shaped ridges have a width of about 25 cm and 35 cm and 10-15 cm high, leaving an interspaced part of the land of 200-220 cm. Ridges are the part of the land where plants are growing. The slope gradient can range from 2-12% or a little higher.



Author: Costas Kosmas

- **1 h** (Costs are affected mainly during installment (shaping the land and planting materials))
- () 1 USD =
- 40

1. Shaping the land (/ : Winter-early spring)
2. Planting (/ : Winter-early spring)

			()	()	%
Clearing the land	person-days	1,0	40,0	40,0	100,0
Shaping of ridges	person-days	0,5	40,0	20,0	100,0
Tractor including shaping instrument (plate)	machine hours	1,0	70,0	70,0	100,0
				130.0	
				130.0	

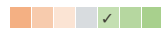
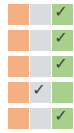
1. Reshaping ridges (/ : Winter-early spring)

			()	()	%
Reshaping ridges by shovel	hours	3,0	5,0	15,0	100,0
				15.0	
				15.0	

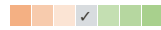


- < 250
- 251-500
- 501-750
- 751-1,000

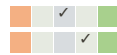
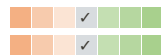
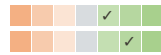
Rainfall occurs mainly from October to May
Mediterranean 470.0



SLM: 20-25 tn/ha
SLM: 22-27.5 tn/ha



Increase in soil moisture can not be quantified in percentage. It depends on the amount of rain water that will be stored into the soil by preventing runoff by existing ridges.



- 1-10%
- 11-50%
- > 50%

- 0-10%
- 11-50%
- 51-90%
- 91-100%

/ ?

 / ?
 ()

- :
• Increase in water storage and decrease in soil loss
:
- Increase in water storage and decrease in soil loss

- / / :
• High erosion rates under heavy rainfall covering the soil with a grass.
/ / :
• Gully erosion under heavy rainfall Cover grass



Editors

Costas Kosmas

Ursula Gaemperli
Gudrun Schwilch
Alexandra Gavilano

: 11

2017

: 2

2019

Manolis Kokolakis -
Costas Kosmas -

SLM

https://qcat.wocat.net/km/wocat/technologies/view/technologies_2922/

SLM

- Agricultural University of Athens (AUA) -
- Interactive Soil Quality assessment in Europe and China for Agricultural productivity and Environmental Resilience (EU-ISQAPER)

• No references:

• No references: [None](#)

This work is licensed under [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International](#)

