



# ***Rules for the use of lead ammunition in shooting ranges and guidelines to intercept and gather lead shots***

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## ***Use of lead ammunition***

**The sport of shooting are carried in facilities of limited size and often large amounts of lead fall on small areas.**

**Managers are required to take care of collecting any material/waste, including lead.**



## ***Use of lead ammunition***

**The lead management generally depends how it was collected:**

**whether through  
interception networks**



**Lead “clean”  
*Secondary raw material***

**whether through  
collecting soil**



**Lead “waste”**



## ***Use of lead ammunition***

**Environmental rules generally state that:**

**Lead “Secondary raw material”**



**free marketing**

**Lead “waste”**



**must be conferred  
to authorized  
subjects through  
strict procedures**



## ***Use of lead ammunition***

**whether lead is classified as waste,  
according to your properties:**

**Not dangerous  
waste (actually)**



**It can be reused after  
cleaning if necessary**



**EU waste code: 20 01 40  
(in Italy legislation)**



## ***Use of lead ammunition***

**Obviously, if lead were be classified as dangerous:**

**also lead "waste"  
will be dangerous**



**It can be reused only after  
explicit authorization for  
the management of  
dangerous waste**



**EU waste code:  
*new classification***



# ***Collecting of lead***

**Some examples on how to collect lead**



# ***Collecting of lead***





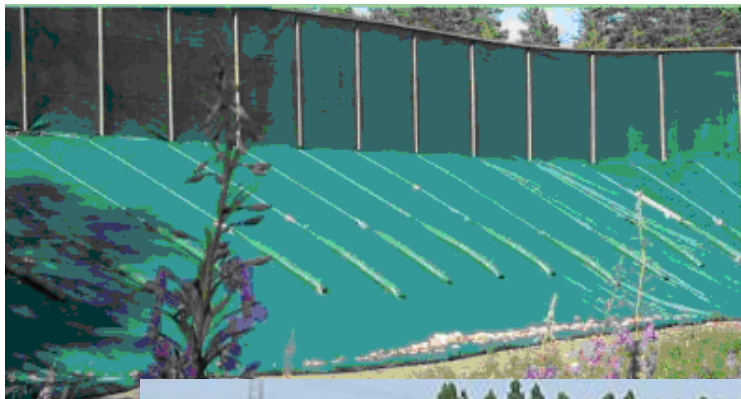


# ***Collecting of lead***





# ***Collecting of lead***







# ***Collecting of lead***





## ***Collecting of lead***







# ***Collecting of lead***





## ***Collecting of lead***





# ***Collecting of lead***







## ***Collecting of lead***

**Collection of lead shot from  
the fallout area with  
mechanized harvesting and  
separation techniques "dry":**

**Better not use water to  
avoid any contamination**





# ***Collecting of lead***

## **Advantages and disadvantages of the methods of collection of lead**

	<b>Pros</b>	<b>Cons</b>
<b>Interception with networks</b>	Lead "clean" no significant costs for collection direct sales as "raw material" (currently 1.5-2 € / kg) financial plan for investments frequent collecting financial plan for investments	High initial costs Significant maintenance costs Space and topography appropriate



# ***Collecting of lead***

## **Advantages and disadvantages of the methods of collection of lead**

### **mechanized harvesting from soil**

#### **Pros**

Not initial costs

Not maintenance costs

Not necessary  
appropriate space and  
topography

#### **Cons**

Lead "waste" (probably)

limited revenues to pay the  
costs or no revenue

collection after long time

corrosion risks



## ***Collecting of lead***

**Amount of lead collected in Italy in 2014**

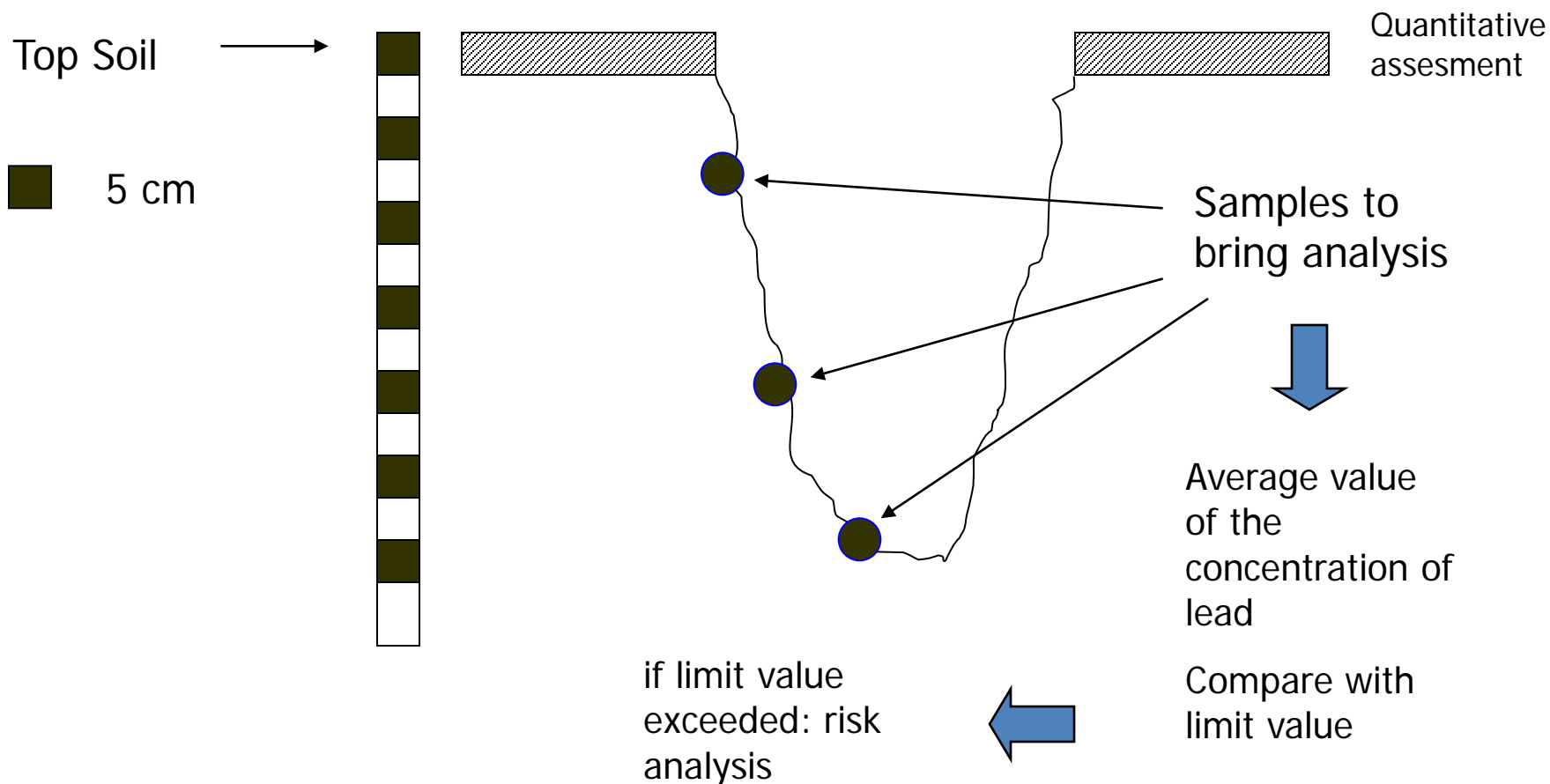
***data from N° 30 major shooting range:***

**Pb shot total about 800 t,  
of which about 300 t from interception  
and about 500 t from mechanized harvesting**



# ***Soil pollution from lead***

## **Standardization of the assessment of pollution**





## ***New works***

**For “risk analysis” would be very useful to further investigate, also in cooperation with the REACH Lead Consortium, the chemical transformations of metallic lead up to the natural formations of the compounds most insoluble and poorly bio-available.**



**Thank you**