

DESCRIPTION WATER RECEPTACLE

Related Technical Field

This invention is related to a method that combines and facilitates the processes
5 of keeping storing and using the rain water for agricultural purposes.

Previous Methods

The existing methods are based on catching the rain water, and directing it for
storage in pools or tanks. The stored rain water is then transmitted
through pipelines for irrigation of the agricultural lands. At the known stage of
10 the technique, in order to prevent water floating, dam is made and rain water is
stored in soil profile on sloping lands. The water that is over the amount of field
moisture capacity deposits down under the deeps so it does not go to waste.

Purpose of the Invention

The invention aims at combining the processes of keeping, storing and using
15 rain water underground in the arable lands. It is a way of trapping water by
water pockets around effective root depth (the water which goes under the
effective root depth).

Detailed description of the Water Receptacle

For implementation of the procedure are used two kinds of sands and a
20 watertight and flexible receptacle that does not crack under pressure. The sand
comprises of thick and thin grain sand. Thick grain sand is filled at the bottom
inside the receptacle, and then covered by thin grain sand. The top edge of the
receptacle is covered as to remain 70 cm to 250 cm under the soil layer. The
depth of sinking depends on the species and root depth of the agricultural crop.
25 The water receptacle however is sunk deeper than the root depth. The soil
gets wet when it rains. The excess water runs through the soil, and fills the sand
receptacle. The strained water is distilled through the thin sand layer. In arid
season when the soil gets dry, the water in receptacles keeps the soil wet. It is
possible to cover or plaster the inside pit as to form a receptacle, or directly
30 place a ready receptacle inside the pit, and fill the same receptacle with sand.
The receptacle is characterized with its flexible and watertight structure that is
only partially deformed with no cracks under pressure. When the system is
applied once, it could be used even for successive years with no maintenance
needed. Between the thick and thin sand layers is placed a permable textile

layer to avoid mixture of the two layers, so that the receptacle would have a longer life. This method is used on semi-arid fields which are more sloping than 15%. On the fields which have 400 mm rain yearly, the area in the direction of slop up some part of the soil surface is covered with non-permeable geotextile product. This method is used together with the existing water harvest and water conservation methods but not preventing them.

10

15

20

25

30

35

CLAIMS

1. It comprises of a method to form a sand filled water receptacles under the soil cover, for which a pit is opened in an arable field, and then internally covered with a watertight and tear-proof material that could be partially deformed under pressure, and filed with sand before closing with a soil cover.

Hüseyin Tahir Güvercin
23/01/2015
14

OPINIONS

Plastics could be used for the method. There are various types of plastics according to their hardness. As for the calabash method, the plastic that shall not be broken and cracked and affected by the chemicals when press is applied should be used. After excavation on soil cover, the soil settles gradually. More over if the plant has tap root, the pressure of the roots increase by the years. Therefore a plastic that is resistant to this pressure should be used in calabash method. Clay is a material that can be cracked and broken against pressure therefore it is not suitable for calabash method. If fired and enamelled clay pots and ceramics are to be used than thick and heavy pots should be used in order to resist against the pressure and they should be placed conscientiously in the hollow then the hollow should be closed conscientiously. Moreover, if the water pot is made of concrete or ceramic, heavy vehicles should not be operated on. Soil cover should be considered as a dynamic and kinetic structure since the roots develops inside and work is done on it. The characteristics and physical features of the plastic for water pot are the followings; non fragile material, partly stainable material, water and moisture proof material.

Huseyin Tahir QUREAI
23/01/2015