WATERING METHODS
OF THE SOUTHWEST
Agriculture is vital to the Pueblo people located in what is known today as New Mexico. It is their original occupation and is part of their cultural and religious beliefs. The farmers focus on the cultivation of a drought-tolerant crop, such as corn. These crops allow us to make the spiritual connection to live in balance with all existence and to restore and maintain the natural cycle of life. Planting, harvesting of crops and wild foods was guided by the seasons and the order of nature. Our people would come together to work, plowing, planting, weeding, protecting and harvesting for the community.

Water is absolutely vital to our food systems. The Pueblo people developed a number of farming techniques that conserve water such as dry farming, waffle gardens and later came irrigation systems. Irrigation systems generally fall into three categories: flood irrigation, drip irrigation, and sprinkler irrigation, which vary in implementation cost and efficiency. In New Mexico, a slight majority of farms (51% by acre) utilize flood irrigation, while 47% by acre use sprinkler irrigation, and only 2% by acre use drip irrigation.

**WATERING METHODS OF THE SOUTHWEST**

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<th>What kind of irrigation do you practice?</th>
<th>What kind of irrigation are you planning to explore?</th>
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<td>DRY FARMING</td>
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check all that apply
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**DRY FARMING**

Dry farming in the high desert relies on precipitation and runoff water, and site selection was vital to a harvest’s success. The chosen site must capture and hold water delivered by the water cycle, making it drought resilient. Pumice (a light, frothy rock full of gas) is a significant component of the local volcanic tuff. Pumice can act as a sponge, absorbing water and releasing it slowly over time. It was used as mulch to preserve moisture in the soil.

**WAFFLE GARDEN**

Other water-preserving practices included terracing, check dams that slowed water moving across slopes, and waffle or grid gardens. You can construct a waffle garden by forming small depressions surrounded by a low earthen wall then plant seeds within the cavity. It is beneficial to select plants that are drought and sun-tolerant. For example, corn is sun-tolerant and grows tall. Beans and squash are less tolerant but grow shorter and shaded by the corn plants, which also provide support for growing.

**FLOOD IRRIGATION**

Flood irrigation is the application of water by gravity flow to the entire field, and this is the method of irrigation that the Pueblo people currently use. Furrows are long, narrow, shallow trenches made in the ground by plows that run between crop rows. The water flows into furrows, moving laterally with the field’s slope and downward towards the crops’ roots. Fields are leveled in all directions and are encompassed by a short, earthen wall, berm to prevent runoff and provide an undirected flow of water onto the field.

**DRIP IRRIGATION**

Drip irrigation is one of the most efficient methods of irrigation in most cases. It allows water to be applied directly to the crop’s roots, causing minimal evaporation to occur. The supplies needed to install drip irrigation include pump, tank, mainlines, sub-mainline, drip lines, valves, emitters, filter, flush valves, and flush manifolds.
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