

Try a long handled diamond hoe for weeding

Many of the hoes commonly used for weeding can strain your back, neck, shoulders, and arms because they force you to adopt a stooped position. Consider a long handled diamond hoe instead of what you currently use. With a long handled diamond hoe you stand up straight while you work and keep your wrists in a more neutral position. The hoe's unique design can also help you save time and effort.



Randy Sagen of West Star Farm near Madison, WI stands upright to use the long handled diamond hoe, but Amy Schlecht must bend to use the stirrup hoe.

How does it work?

The long handled diamond hoe has a 2" x 8" diamond-shaped blade, sharpened on all 4 edges. The handle is 6' long and ends in a modified "T" shape. While standing upright, you push the hoe with your hand loosely gripping the "T" and pull it back again in a push-pull motion similar to running a house-



Left to right; the stirrup, collinear and long handled diamond hoe.

hold vacuum. With your other hand along the handle, you can gently guide the hoe.

Hoes are designed either for weeding (to slice weeds at or just below ground level) or for chopping (to cut up weeds and cultivate or disturb the soil surface). Blades on chopping hoes, such as a rectangular onion hoe, are set at a sharp angle to the ground and are designed to

move more soil than weeding hoes. The long handled diamond hoe is a weeding hoe, as are the stirrup hoe (also called the action, oscillating, swivel, scuffle, or hula hoe), the circle hoe, and Eliot Coleman's collinear hoe.

Diamond hoe benefits:

Less fatigue and discomfort.

To prevent fatigue and soreness, it helps to use a weeding hoe instead of a chopping hoe because you skim it along the ground or slightly beneath the surface instead of repeatedly lifting the hoe and moving a lot of soil. Using a hoe with a regular length handle (typically 54-57") forces you to bend to reach the ground, which strains your back, shoulders, arms, and neck. With the long handled diamond hoe and the collinear hoe, the handle length and blade position work together to let you hoe with your back straight. In our trials, we took repeated measurements of spine angle from an hour of work. On average, when using the long-handled diamond hoe the worker had 8 degrees of forward lean from vertical, as compared to 15 degrees of forward lean using the stirrup hoe.

With the diamond hoe, you also have less neck strain because you face forward as you work instead of sideways, compared to using the collinear and stirrup hoes. The long handled diamond hoe moves less soil than the stirrup hoe and requires less effort. Holding the slightly angled "T" handle on the end of

WORK EFFICIENCY



Tip Sheet

A series of tip sheets on labor efficiency for vegetable and berry growers.

by Astrid Newenhouse
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the long handled diamond hoe puts your wrist in line with your arm in a neutral position that isn't bent or twisted. This helps prevent wrist strain.

Requires less effort. Your body exerts more power with less effort when you push against something than when you pull, therefore pushing a hoe to cut off weeds is more efficient than pulling it. With the long handled diamond hoe, you can do both. It also takes a lot less effort to slice weeds with a sharp edge than a dull one.

The long handled diamond hoe is made of forged steel and is razor sharp. Compared to a stamped blade of mild steel, it starts out sharper and stays sharper. To keep it sharp, use a mill file or bench grinder and file across the width of the blade with each downward stroke. Maintain the manufacturer's bevel.

Lets you change positions.

Many people who use the long handled diamond hoe switch it from hand to hand to give each arm a rest. You can also use your leg muscles to help move the hoe through the soil. Some people alternate hoeing in front of them with reaching to hoe each adjoining row, saving themselves steps. Each time you change your work position, you alleviate muscle stress and prevent pain.

Fast and precise. The hoe you choose depends on personal preference, soil type and moisture level, weed height, and crop growth. With 4 cutting edges and 2 sharp points, you can quickly remove weeds very close to your crop. After an initial trial session to get used to the long handle, upright posture, precise cutting edges and "far away" blade, you can weed more quickly with this hoe than with others. In our field trials, removing small (2-4 inch) weeds from between salsify rows was 21% faster with a long handled diamond hoe than with a stirrup hoe.

Affordable. The long handled diamond hoe costs \$35-\$40. While initially more costly than many other hoes, it can pay for itself by saving time and preventing injury and soreness.

How can I get one?

The long handled diamond hoe we describe here was originally designed for tulip farmers, and is made by De Van Koek, a Dutch company. It is available from farm and garden supply dealers such as:

Glacier Valley Enterprises
S2907 County Hwy A
Baraboo, WI 53913
1-800-356-6670

Ag Resource Inc.
35268 State Hwy 34
Detroit Lakes, MN 56501
1-800-288-6650

These references are provided as a convenience for our readers. They are not an endorsement by the University of Wisconsin.



The long handled diamond hoe has a slightly angled "T" handle which helps provide control and prevent wrist strain.

This material was developed by the Healthy Farmers, Healthy Profits Project, whose goal is to find and share work efficiency tips that maintain farmers' health and safety and also increase profits. For more information, call (608) 262-1054 or visit our website at <http://bse.wisc.edu/hfhp/>

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