

Over the past quarter century Sundance Farms has been thinking green in a very substantial way. The water saving and yield boosting sub surface drip irrigation systems are now being used all around the world. The minimum tillage equipment such as the stalk puller and the Sundance Wide-bed mounted tandem disk (Fig. 1) have made it possible to reduce tillage costs by over fifty percent.

The latest development here at Sundance Farms is moving into no-till farming. The recently patented machine used for this purpose is called a Peel-off machine. (fig. 2) With the ground completely covered with wheat stubble or Milo or corn stubble, the peel-off machine cuts through the stubble with a sharp serrated coulter with depth bands followed by a set of opposing disks which splits the stubble exposing the soil followed by a swept backed ripper making a mulch for



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Fig. 1) Sundance Root (stalk) Puller (front) & Wide Bed Mounted Tandem Disk (rear)



Fig. 2) Individual unit parallel linked showing coulter/gauge wheel and peel-off disks and mulching knife

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the planter which follows that is attached to the tool carrier for different planters attached. This machine follows the surface of the ground even though it may be undulating or uneven because each unit has its own gauge wheel and is mounted on heavy duty set of parallel links.



Fig. 3) Milo planted after wheat.



When row crops like cotton or milo maize or corn are planted on melon beds where subsurface drip lines are used; a variation of the peel-off rig is used. With this machine the gauge wheel is solid metal or rubber tire depending on field conditions followed by 2 disks in parallel so as to deliver the spoil to one side. The disks are followed by a mulching sweep and spreader wings. The planter follows after about 4 hours later so as to allow the soil to dry enough to prevent the planter from mudding up. These units have their own gauge wheels and are very flexible because they are suspended on heavy duty parallel links so they are independent from one another Fig. 4.



Fig. 4) Peel-off rig with steel wheels in place of the serrated coulters; very effective on 80" beds behind melons.

The tool carrier which these units are mounted on has a three point hitch to the rear that allows the planter to be hitched onto. Fig 5 or 6. The peel-off rig with a rubber tire in place of the serrated coulters with depth gauge bands can be used very effectively on beds with little or no stubble and where the ground is moist or wet. The rubber tire doesn't mud up where the coulters with depth bands might. The spreader wings behind the disks smooth out the spoil from the disks giving the planter a flat service to run on.

The "green revolution" is well on its way and farmers in irrigated agriculture have made quantum leaps forward in conserving water through the use of drip irrigation where subsurface drip is used. Where drip irrigation is utilized, the furrows and borders are eliminated and minimum tillage can be employed.



Fig. 5&6) Showing complete rig followed by planters.

By leaving the crop residue on the surface, specialized equipment can be used to split the residue and place the seeds in soil where they can sprout. The crop residue on the surface of the soil reduces the amount of moisture lost through evaporation. The aerobic bacteria in the soil love the blanket the crop residue provides.

The minimum tillage and no till equipment that has been developed at Sundance farms when used to reduce or eliminate the tillage operations has proven very effective in reducing costs and increasing yields. Please refer to our website @ www.azdrip.com for more information.