Planting basins for better crop growth

Recognize the problem
Farmers who have to wait to hire oxen, often prepare their land too late. Then they plant too late to maximise profit from the limited rain. Another problem is that crops in ploughed fields are more prone to wilting and poor yields during poor rain seasons (dry spells and short rain days) compared to those planted in basins.

Background
Planting basins are ideal in low rainfall areas like southern, eastern provinces, Lusaka area, and in some southern parts of central provinces of Zambia. During dry spells, crops in basins are less prone to wilting because basins hold more moisture, which can increase yields. Maize, soyabeans, cotton, groundnuts and sunflower can be grown in basins. Such basins are practical in small fields but farmers with a big labour force, or those who can hire people, can make use of basins in big fields. Basins ensure efficient use of inputs because you only add inputs where plants will be planted. Provided good crop rotation is followed, there is no need to burn crop residues; they can be put between rows close to the basins. Residues will act as mulch, reduce water run-off and soil erosion, and will promote water infiltration. They also reduce loss of moisture through evaporation, and they add manure after decomposing. Roots are also protected from sun heat.

Management
• Equipment needed: strong hand hoe such as “chaka hoe”, teren rope on bottle tops spaced at about 70cm to measure spacing between basins in the row, two sticks 90cm each to measure row spacing, and 2 or 4 pegs.
• Start digging basins as soon as you finish harvesting, soils will usually be soft then. Then, before the onset of the rain season, land preparation will have been completed and you can wait for rains and planting.
• Place a teren rope along the field, and tie it to the pegs. It should be straight and firm.
• Spacing: 90cm between rows and 70cm between centres of basins in the row. In very dry regions the spaces can be bigger. In moister regions spaces can be smaller.
• Basin size: 30cm long (foot length), 15-20cm deep, and width size of hoe.
• Using a chaka hoe, dig basins moving backwards to avoid covering of already dug basins.
• When you reach the edge of the field, measure the space to the next row, for example 90 cm.
• Hit the pegs into the ground and tie the rope strait and firm, continue with the procedure throughout the field.
• The planting time of a crop into a basin depends on the crop. For information on when to plant different crops into the basins, contact your nearest ministry of agriculture or CFU offices, look out for a factsheet on timing of planting, or ask neighbouring farmers.

The recommendations in this factsheet are relevant to: Malawi, Tanzania, Zambia

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