

Range Management Plant Succession

NE Fact Sheet-6

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What

Progressive plant development or replacement of one plant community by another is an ongoing, generally long-term process referred to as plant succession. Plants dominate an area of land because they are best adapted to that soil, temperature, rainfall, elevation, exposure, and other ecological factors like grazing or fire.

Why

Although the potential plants on an area of pasture are relatively stable, plants change when environmental factors change. If the annual average temperature of a region changes only a few degrees, the plants respond with changes in composition. If the plant cover of the land is removed and soil erodes, the potential plant community also changes. When the potential plant community of an area of pasture is destroyed, nature strives to restore the vegetation to its original state.

Grassland management today is based on sound ecological principles. Continuous overgrazing of pasture changes the potential plant community from desirable, highly productive grasses to low quality, poor-producing grasses, and often permits invasions of moisture robbing woody plants. This change to less desirable plants is called plant retrogression.

How

To reverse retrogression and restore rangeland to its productive potential, long-range planning is necessary. First, determine what caused the problem. To address the problem without addressing the cause is a short-term solution that may have a long-term impact. Next inventory the present plant community.

Careful consideration must be given to comparing the present pasture plants in relation to the potential plants that would grow on the soil. A plan for range improvement must be carefully considered, and alternatives weighed to achieve the desired effects economically.

To return grassland to its potential through plant succession, a well-designed grazing system must be incorporated. Various systems are explained in another fact sheet, "Planned Grazing Systems." Basically, managing animals to graze plants at the proper time and to the right intensity will stimulate plant growth, especially the desirable grasses. This managed grazing, coupled with proper resting of plants, will increase the vigor of the more desirable plants, and allow them to better compete with less desirable plants for sunlight, moisture and nutrients. Positive plant succession will then begin. The plants that are best adapted and most competitive will begin to dominate the site again.

Where to Get Help

For more information about rangeland, hay, and pasture management, contact the local office of the U.S. Department of Agriculture's Natural Resources Conservation Service. It is listed in the telephone directory under "U.S. Government."