

How to Distinguish Nassella Tussock

	NASSELLA (<i>N. trichotoma</i>) Fig. 1.	HARD TUSSOCK (<i>Festuca novae-zelandiae</i>) Fig. 2.	SILVER TUSSOCK (<i>Poa caespitosa</i>) Fig. 3.	NEEDLE-GRASS. (<i>Stipa variabilis</i>) Fig. 4.
Appearance of adult:	Dense tussock, with pale drooping foliage, and purplish flowering parts, drooping outwards. Leaf-bases pale, somewhat swollen.	Dense tussock, with straw-coloured foliage, not drooping, and pale, erect flowering parts.	Dense tussock, with yellowish to brownish-green, slightly drooping foliage, and straw-coloured, erect, but spreading flowering parts.	<i>Small tufted plant</i> , with short leaves of greyish green appearance, and tall, erect flowering parts.
Leaves:	About 20 inches long, very narrow, rough to downward touch.	About 14 inches long, very narrow, but less so than <i>Nassella</i> , rough to downward touch.	About 20 inches long, narrow, but less so than the two former, somewhat flat-tish, <i>smooth to downward touch</i> .	About 5 inches long, narrow, rough to downward touch.
Collar:	With papery, rather long ligule, somewhat eared.	Short, finely cut at tips, distinctly eared.	Reduced to narrow rim, not eared.	Distinct, with long fine hairs, distinctly eared.
Inflorescence: ..	Ample, spreading, drooping, the whole <i>easily detached</i> .	Ample, somewhat spreading, hardly drooping, not easily detached.	Less ample, more erect, not easily detached.	Ample for size of plant, erect, not easily detached.
Stalk:	About 15 inches long, smooth.	About 12 inches long, <i>rough</i>	About 15 inches long, smooth.	About 6 inches long, smooth.
Flowering part:	About 10 inches long, spreading and drooping.	About 6 inches long, narrow and erect.	About 6 inches long, somewhat spreading, suberect.	About 6 inches long, erect, not spreading.
Spikelets:	Single-flowered, purplish.	Several-flowered, pale green to straw-coloured.	Several-flowered, pale green to straw-coloured.	Single-flowered, greyish to slightly purplish.
Seeds—Base: ..	Somewhat pointed, hairy.	Blunt, free from hairs.	Blunt, with cobwebby hairs.	Sharply pointed, hairless.
Body:	Short, broad, plump, ribbed, rather rough.	Rather long, smooth, rounded on back.	Rather long, roughish, keeled on back.	Long, narrow, hairy, terete.
Bristle:	Flexuous, about 1 inch long, twisted below.	Very short, straight.	Without a bristle.	About 2 inches long, strongly twisted below, bent at almost a right angle.

(3) The power of seedlings to develop even in dense areas, and to replace old and decaying tussocks.

(4) The mat of dead foliage and flower stalks accumulating between the tussocks, aiding in killing out or preventing the establishment of other plants.

(5) The prolific seeding habit and apparent powers of the seeds to remain viable for long periods.

(6) The tumble-weed habit of the inflorescence, which, coupled with its lightness, enables the seed to be spread in quantity for great distances.

(7) The power of the seedling to establish under shade, maintaining the dense cover once it is established.

(8) The power of the seedlings to establish in all but the densest pastures.

(9) The long bristle and the pointed base of the seed, enabling it to penetrate the wool of sheep.


(10) The resistance to control by methods hitherto devised.

(*Stipa variabilis*, naturalised from Australia) is included, as this pest (the seed is injurious to sheep) is well established near Waipara, especially on stony riverbeds. It has been sometimes mistaken for young *Nassella*.

Needle-grass is at once distinguished by the small size and the very long

bristles of the seed, bent at an angle. Young plants of *Nassella* can be distinguished from those of needle-grass by the absence of the long hairs at the point where the leaf joins the stem. Silver tussock can be distinguished at all stages by the leaves not feeling rough when they are rubbed down-

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Comparison with Native Tussocks

As it is most important for all concerned to be able to distinguish the different tussocks, the accompanying table has been drawn up, which should be read in connection with the illustrations. A description of needle-grass