

PRODUCT DATA SHEET

A comparison of mustard species

BOTANICAL NAME	<i>Sinapis alba</i>	<i>Brassica nigra</i>	<i>Brassica juncea</i>	<i>Brassica carinata</i>
ENGLISH COMMON NAME	White mustard	Black mustard	Brown mustard	Ethiopian rape/Ethiopian mustard
GERMAN COMMON NAME	Gelbsenf, Weißer Senf (≠ Ackersenf, common field weeds)	Schwarzer Senf	Brauner Senf, Sareptasenf	Abessinischer Senf
FAMILY	Cruciferous plants (Brassicaceae)			
ORIGIN	Mediterranean	Eastern Mediterranean	South Asia	East Africa/Ethiopia
TYPE OF CROSS	-	-	<i>Brassica rapa</i> (n = 10) X <i>Brassica nigra</i> (n = 8)	<i>Brassica nigra</i> (n = 8) X <i>Brassica oleracea</i> (n = 9)
CHROMOSOME NUMBER	n = 12	n = 8	n = 18	n = 17



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MORPHOLOGICAL DIFFERENCES	<p>Grows to 1.3 m in height</p> <p>Stem angular and grooved with bristle-like hairs</p> <p>Leaves with regularly lobed edges and smooth with visible venation</p> <p>Leaf shape: Pinnatifid to pinnatisect</p> <p>Flower colour: Bright yellow</p> <p>Seed pods with 5 veins, covered in long bristle-like hairs</p> <p>Pods grow away from the stem, ending in long tip</p> <p>4-8 seeds per pod</p> <p>Seed colour: Yellow</p> <p>Avg. TGW: 6 g</p>	<p>Grows to 2.0 m in height</p> <p>Stem round and smooth, lower part hairy, upper part bare with bluish hue</p> <p>Large leaves have long stalks, do not clasp to the stem as in the case of rapeseed</p> <p>Lower leaves have pronounced lobes</p> <p>Upper leaves are narrow, oval and entire</p> <p>Flower colour: Light yellow</p> <p>Seed pods grow close to the stem and do not end in a long tip</p> <p>Ripe seed pods split open quickly → A switchover to brown mustard has been made since the 1950s</p> <p>4-10 (sometimes 16) seeds per pod</p> <p>Seed colour: Dark brown</p> <p>Avg. TGW: 2.1 g</p>	<p>Grows to 1.8 m in height</p> <p>Stalk branching generally begins higher up than in <i>Sinapis alba</i></p> <p>Broad leaves, lyrate lobed close to the ground</p> <p>Upper leaves lanceolate with entire margins</p> <p>Flower colour: Darker than <i>Sinapis alba</i> and lighter than <i>Brassica nigra</i></p> <p>Seed pods are closer to the stem than in <i>Sinapis alba</i>, but farther than in <i>Brassica nigra</i></p> <p>Seed pods are longer than those of <i>Brassica nigra</i>, but generally shorter than <i>Sinapis alba</i></p> <p>6-15 (sometimes 20) seeds per pod</p> <p>Seed colour: Light brown</p> <p>Avg. TGW: 2.9 g</p>	<p>Grows to 1.4 m in height</p> <p>Stem waxy, bare to slightly hairy</p> <p>Lower leaves oval to oblong with 2-3 deep lobes, up to 20 cm long and 10 cm wide</p> <p>Upper side of leaves often greenish, underside is paler, generally greyish, variety-specific reddish-purple or bright green leaf veins</p> <p>Flower colour: Bright yellow</p> <p>Seed pods end in a long tip</p> <p>Up to 20 seeds per pod</p> <p>Seed colour: Light brown</p> <p>Avg. TGW: 3.5 g</p>



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BOTANICAL NAME	Sinapis alba	Brassica nigra	Brassica juncea	Brassica carinata
ADAPTATION TO HEAT AND DROUGHT	Medium	Very good	Medium	Good
VARIETIES	Greatest level of breeding activity	Nearly no breeding activity	Intermediate level of breeding activity	Low breeding activity
CONTENT (RELATIVE TO DM)	24-45% fatty oils 30% protein and mucins 2.5-4.4% sinalbin (a glucosinolate)	24-38% fatty oils 30% protein and mucins 1.0-5.0% sinigrin (a glucosinolate) 1.0% allyl isothiocyanate	Up to 30% fatty oils 28% protein and mucins 1.0% sinigrin (a glucosinolate)	-
PHARMACEUTICAL USES	Mustard seeds contain mustard oils. Mustard oil glycosides (also called glucosinolates) are released from mustard oil via enzyme splitting. Mustard oils help to improve blood flow, though they can also irritate the skin in high doses.			
GENERAL USES (ASIDE FROM USE AS A CATCH CROP)	Seeds are used as a seasoning, mild mustard is made from ground seeds; major cultivating countries include Hungary, Poland, Morocco and Canada	Nearly no use as a seasoning or condiment	Seeds are used as a seasoning; ground seeds are used in mustard production → Mustard designated as “medium hot”, “hot” and “extra hot” is made by increasing the ratio of Brassica juncea to mild mustard (which comes from Sinapis alba); Dijon mustard is made exclusively from Brassica juncea Young leaves also used as salad greens Used over several years to restore lead-contaminated soil	Leaves also used as greens in Africa



Any questions? Please feel free to contact us!

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