

Origins of the Species

By Robert Connell Clarke on April 13, 2006



Varieties of marijuana originating in India have been grown throughout the Caribbean and bordering coastal nations from Mexico to Brazil since 1834, when the British brought indentured Indian servants to their Caribbean colonies. Marijuana use did not become illegal in America until 1937, and large-scale commercial importation of hashish and marijuana into Europe and North America did not commence until the early 1960s.

Marijuana growing began in North America during the 1960s. At first, seeds cleaned from illicit shipments of marijuana were casually planted by curious smokers. Sinsemilla (Spanish for ?seedless?) marijuana was almost unheard of. Nearly all domestically produced marijuana that lacked seeds was immature, and mature marijuana was fully seeded. Tropical varieties from Colombia and Thailand grown in North America rarely matured before frosts killed them. However, some of the tropical varieties regularly survived until maturity in coastal Florida, Southern California, and Hawaii, where the climate is warm and the growing season is long. Alternately, subtropical Mexican and Jamaican varieties often matured outdoors across the southern two-thirds of the United States. All of these early introductions were called ?sativas,? a common name derived from the botanical name *Cannabis sativa*.

In the early 1970s, a handful of growers began to produce sinsemilla. Seedless plants are created by removing male plants from the fields, leaving only the unfertilized female plants to mature. Instead of setting seeds in the first receptive flowers, the female plants continue to produce copious additional flowers, covered by hundreds of thousands of resin glands. By the mid 1970s, sinsemilla was becoming the primary style of domestic marijuana production.

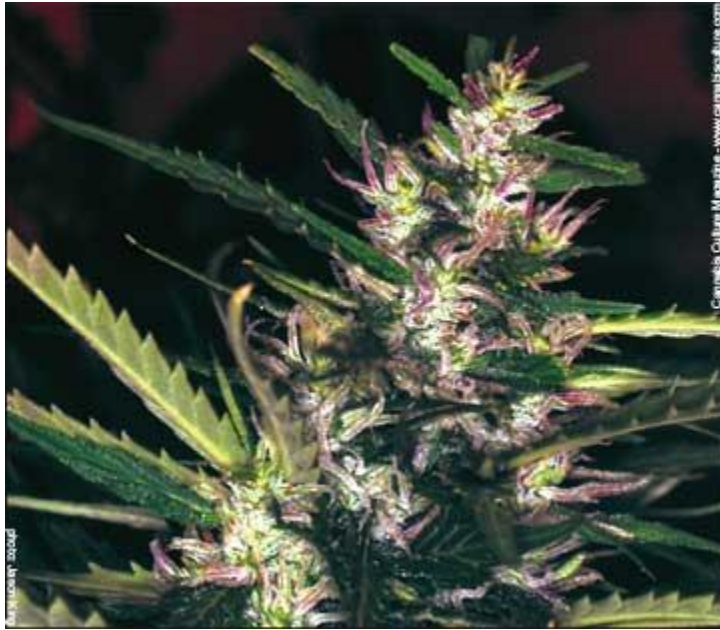


In 1976, a coffee-table book called *Sinsemilla Marijuana Flowers*, by Jim Richardson and Arik Woods revolutionized marijuana growing in North America. Not only did the authors accurately and sensitively portray the sinsemilla technique with their excellent text and lavish color photographs, they made the first attempt to describe the proper stages of floral maturity for an optimally potent and tasty harvest. Most importantly, this publication, just thirty years ago, suggested to growers that if marijuana can be grown without seeds, it follows that select female flowers can also be intentionally fertilized with select pollen to produce a few seeds of known parentage. This realization, in turn, gave birth to the expansion of conscious marijuana breeding and the myriad varieties portrayed in this article.

Early on, marijuana growers worked with any varieties they could procure in the search to find potent plants that would consistently mature before being killed by frosts. Since most imported marijuana was full of seeds, many landraces (traditional cultivars grown by indigenous peoples) were available to growers. Early-maturing northern Mexican varieties proved to be favorites as they consistently finished maturing at northerly latitudes. The earlymaturing North American sativa varieties of the early and mid-1970s (such as Polly and Eden Gold) resulted from hybrid crosses between Mexican or Jamaican landraces and more potent, but latermaturing Panamanian, Colombian, and Thai landraces. (In all hybrid crosses, the female seed parent is listed before the "x" the symbol indicating a cross and the male pollen parent is listed after the "x." If the sexual identity of the parents is unknown, a "?/?" symbol is used rather than the "x.") Traditional cultivars gave modern growers a strong start having been favored and selected for potent landrace varieties for hundreds of years.

Most varieties in the 1970s were adapted to outdoor growing, but others were specially developed for greenhouse or indoor, artificial light growing, where the season can be extended to allow latermaturing cultivars to finish. Once varieties that would mature under the given conditions were perfected, pioneering marijuana breeders selected for high potency high delta-1-THC content with low CBD content followed by the aesthetic considerations of flavor, aroma, and color. (Delta-1-tetrahydrocannabinol, or THC, is the primary psychoactive compound in Cannabis. Cannabidiol, or CBD, is not psychoactive, but may alter the effects of THC.) Modifying adjectives, such as minty, floral, spicy, fruity, sweet, purple, golden, or red, were often attached to selected varieties, and thus domestic sinsemilla connoisseurship was born. Continued inbreeding of the original favorable hybrids resulted in some of the legendary sativas

of the 1970s, such as Original Haze, Purple Haze, Polly, Eden Gold, Three Way, Maui Wowie, Kona Gold, Matanuska Thunderfuck, and Big Sur Holy Weed, which were almost always grown outdoors or in greenhouses. From 1975 until the end of the decade, marijuana breeders had great success continuing to develop connoisseur sativa cultivars. Sweeter, prettier flowers brought the grower great pride and even greater profit. Purple varieties gained popularity, largely following on the coattails of the extraordinary Purple Haze of Central California.



By 1980, commercial sinsemilla cultivation had become much more common. Professional growers developed sativa varieties that were both high yielding and early maturing, and police awareness of commercial cultivation increased, especially in the western United States. Small aircraft were routinely used to search for larger marijuana plantations located in remote terrain, and many small growers were turned in to the police by snoop, alarmist neighbors. The authorities soon learned that marijuana matures in the autumn so a variety that could be brought out of the field and into the drying shed by early October avoided some of the problems that might arise with a variety that matured in late November. Faced with storage problems resulting from numerous seizures, the authorities often merely counted seized plants and burned the bulk of the confiscated crop immediately without weighing it. Prosecution was based on the number of plants counted. Just enough dried marijuana was saved for laboratory analysis to be used as evidence in court. Concurrent with increased sinsemilla production was an increased incidence of crops being stolen. The fewer large and early-maturing plants a cultivator could grow, while continuing to realize a sufficient yield and profit, the better the chances of avoiding detection by law enforcement or thieves.

When Cannabis responds positively to lots of water, sun, and nutrients, it produces huge plants, sometimes yielding up to five pounds (more than two kilograms) of dried flowers. The more they are fed and watered, the taller and bushier they become, even when heavily pruned. The larger the plant, the easier it is to spot from the air or over a fence. This situation kindled a desire in growers for plants with a short, broad stature and high flower yield. Before 1975, almost all sinsemilla was grown from sativa varieties. Correctly grown Colombian, Mexican, or Thai varieties averaged over eight feet (two and one-half meters) tall when pruned or trellised, and

could easily reach thirteen to sixteen feet (four to five meters) when grown unrestricted in full sun. As marijuana breeders continued to cross their shortest, earliest maturing, and highest-yielding sativa cultivars with each other and pruned frantically, they yearned for something new. Their salvation was manifested in a new and exotic foreign variety of marijuana called ?indica.?



Skunk #1 THE INTRODUCTION OF INDICA

Most modern European and North American sinsemilla varieties are a blend of South Asian marijuana varieties called sativas that spread throughout South and Southeast Asia, Africa, and North and South America, and have been (since the 1970s) crossed with Central Asian and Middle Eastern hashish cultivars, commonly called ?indicas,? a name based on the botanical name *Cannabis indica*. The most well-known indica varieties came from Afghanistan and Pakistan. Indica plants are characterized as short and bushy with broad, dark green leaves, which makes them somewhat harder to see from afar. They usually mature quite early, from late August to the end of September, often stand only three to six feet (one to two meters) at maturity, and produce copious resin-covered leaves and flowers. At least several dozen introductions of indica seeds from Afghanistan or Pakistan into North America were made during the middle to late 1970s. Afghani No. 1, Mazar-i-sharif, and Hindu Kush were some of the earliest indica introductions and are still available today. Since the Soviet invasion of Afghanistan in 1979, many more indicas have made their way directly to Dutch seed companies from neighboring Pakistan. Indica added economically valuable traits to extant domestic marijuana varieties, but it was considered rough by many smokers, being originally intended for bulk hashish production, rather than fine sinsemilla. Marijuana breeders still needed the traditional sativas to make hybrids that were both potent and cerebral.

Marijuana breeders intentionally crossed early-maturing indica varieties with the sweet, but later maturing, sativa varieties to produce early-maturing hybrids. Soon the majority of growers began to try a few indica/sativa hybrids. By the early 1980s, the vast majority of commercially produced sinsemilla in North America had likely received some portion of its genetic

composition from the indica gene pool, and it had become difficult to find the pre-indica, pure sativa varieties that had been so popular only a few years earlier. There are now very few pure sativas grown in North America and Europe, as they mature late outdoors and require extra time to mature indoors, resulting in higher costs and risks. Many of the indica/sativa hybrids were vigorous growers, matured earlier, yielded well, were very potent, and were easier to conceal due to their shorter stature. Skunk No. 1 (Colombian sativa/Afghan indica x Acapulco Gold Mexican sativa) is a good example of a hybrid expressing predominantly sativa traits, and Northern Lights (Afghan indica/Thai sativa) is a good example of a hybrid expressing predominantly indica traits.



CitrolIndica hybrids spread like wildfire. Although the influence of indica generally increased steadily throughout the mid-1980s (owing to its delayed introduction in many regions), its popularity in pioneering regions had begun to decline. Since Cannabis is wind-pollinated and sinsemilla is usually grown in enclosed gardens, accidental pollination often results in many seeds. Accidental seeds are far more common than intentionally produced seeds, and are rapidly and widely distributed in retail sinsemilla. Intentionally produced seeds are usually only passed along from one serious breeder to another or purchased from seed companies, and their distribution is more limited. Accidentally produced seeds containing varying proportions of the introduced indica gene pool were grown and randomly crossed again and again. Such random outcrossing produced a complex hybrid condition such that favorable traits were rarely consistently reproducible. Few of the offspring looked like their siblings, their gene pools having been formed from randomly collected genetic scraps handed down from their assorted predecessors. Over the next few years, the mixed gene pools reassorted, manifesting many undesirable as well as desirable characteristics.

Without careful selection and breeding, marijuana begins to turn weedy, and as natural selection takes over, varieties lose their vigor, taste, and potency. Accidental recombination of complex hybrids brought out some of the less desirable traits of indica that were previously suppressed. Reduced potency; a slow, flat, dreary high; and a skunky, acrid aroma and harsh taste quickly

became associated with many indica/sativa hybrids. Also, indica's dense, tightly packed floral clusters tend to trap moisture, encouraging gray mold, for which it has little native resistance. This often results in significant crop losses that were rarely a problem when only pure sativa varieties were grown. Indica/sativa hybrids are still what the average sinsemilla consumer purchases today. To the sinsemilla connoisseur, indica has not proven to be all it was cracked up to be. Although consumers and commercial growers of the late 1970s adopted indica enthusiastically, serious breeders of the 1980s began to view indica with more skepticism.



K2The average commercial or home grower, however, may express quite a different opinion. Indica's hardy growth, rapid maturation, and tolerance to cold allowed sinsemilla to be grown outdoors in the northern United States, from Washington to Maine and across southern Canada. This revolutionized the marijuana market by making potent homegrown a reality for those living at northern latitudes, as well as widening the scope and intensity of sinsemilla cultivation. Production dispersed from the U.S. epicenters of the West Coast, Hawaii, and the Ozark mountains into at least twenty major producing states. Some sinsemilla is now grown outdoors in all fifty American states, across southern Canada, and throughout much of Europe. Indica/sativa hybrids have also proven to be well adapted to indoor cultivation. Compact indica/sativa hybrid varieties mature quickly, allowing three to four harvests per year, and yield an average of three to four ounces (one hundred grams) of dry flowers on plants only three feet tall. Sativa varieties are too stretchy and tall, take too long to mature, and the tops of the plants, near the lights, shade the bottom branches, preventing them from producing many flowers. The introduction of indica also had a more subtle, and possibly longer-lasting, effect on sinsemilla breeding. Purple coloration had become a sign of quality and potency in late-maturing sativa cultivars like Purple Haze. The consumer's thirst for exotic purple sinsemilla created the short-lived "Purple Craze" of the early 1980s. Growers discovered that indica varieties would often turn purple if they were left out through a frost. For a year or two, many growers were able to get more money for purple flowers, but early-maturing indica varieties, when left in the field

through a frost, lost much of their potency. This abruptly ended the Purple Craze, and enlightened marijuana breeders realized that many traits prove to be desirable only in certain varieties under certain conditions. The conscientious breeder should be extremely selective when experimenting with new introductions.

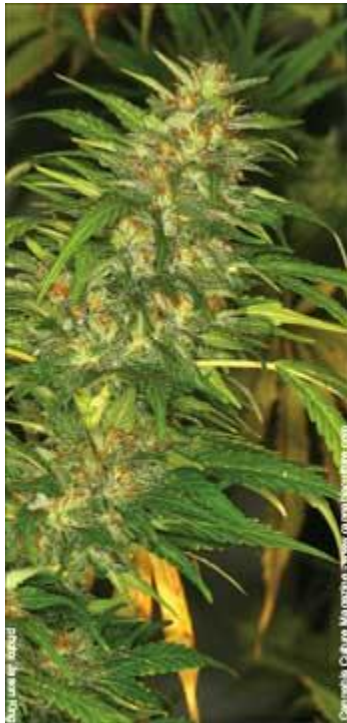


K2TURNING THE INDICA TIDE

In their search for high-quality genetic stock, connoisseur sinsemilla breeders have returned to some of their original pure sativa varieties. By crossing them into the now highly inbred indica/sativa hybrid varieties, breeders can enhance the hybrid's flavor and boost its potency. Breeders are continually searching for new sources of exotic seeds. Pure unhybridized indica varieties are still highly prized breeding material, and new indica introductions are occasionally received from Afghanistan and Pakistan. Sativa varieties from South Africa have recently gained favor with outdoor growers, as they mature early but don't suffer from many of the aesthetic drawbacks of indica. Pure South African varieties, originating far south of the equator, often mature in August, but are shorter in stature, moderately potent, and relatively high yielding. Hybrid crosses between indicas and classic indica/sativa hybrid varieties such as Skunk No. 1 are usually vigorous and early maturing and may express the desirable sativa and indica traits of high potency, fine fragrance, and high yield.

Prior to 1980, a few breeders also worked with weedy sativa varieties from Central Europe. Most Western growers call these varieties "ruderalis." These weedy varieties begin maturing in July or early August, which hastens the maturity of outdoor hybrid marijuana varieties. Unfortunately, they are almost entirely devoid of THC and are high in CBD. Potency suffers in hybrid offspring, and subsequent selections must be made to restore high levels of psychoactivity. However, the biggest problem with weedy varieties and their hybrids is that they are not determinate. A single plant will continue to produce new flowers until it is harvested,

rather than all of its flowers maturing before harvest, so its full potential is never realized. Ruderalis hybrids will likely prove of great value only to outdoor growers at near polar latitudes where little else will grow.



Big BudNorth American breeders also used other exotic imports to impart particular flavors to the smoke or to enhance the potency of hybrids. Landrace varieties from Brazil, India, Indonesia, Kashmir, Korea, Nepal, Africa, and other far-flung locations were occasionally used for these purposes. Since commercial shipments of marijuana did not often originate from these regions, usually the seeds were collected in small numbers and were relatively rare compared to seeds from the major marijuana-producing regions such as Colombia, Mexico, Jamaica, and Thailand. Presently, it is nearly impossible to import seeds from new, potent, imported varieties. They rarely can be collected as there are very few locations remaining where indigenous farmers maintain traditional high-potency landraces. Basically, we are stuck with what we have in circulation, like it or not, and breeders must make the best of what they have.

A few strong branches of the North American marijuana family tree were transplanted to the Netherlands, and the remaining scions continued to flourish and evolve, leading to the tremendous diversity of marijuana varieties grown in North America and Europe today. Resulting from the openness of marijuana seed sales in the Netherlands, Dutch seed companies provide an easily documented model of the sinsemilla breeding that has continued simultaneously in North America. The Dutch seed companies described much of the heritage behind their varieties in their early catalogs. The following information comes directly from published seed catalogs and is supplemented with personal comments from breeders and seed company owners.



G13DUTCH SEED COMPANIES

During the early 1980s, several marijuana seed companies appeared in the Netherlands, where cultivation of Cannabis for seed production and the sale of seeds were tolerated. Political pressure on marijuana growers in North America forced the thrust of progress in sinsemilla breeding to the Netherlands, where the political climate was much less threatening. For North American and European growers, this meant continued availability of exotic high-quality marijuana seeds.

Almost all of the Dutch varieties contain germ plasm from one or more of the founding genetic building blocks brought from North America. Cultivars such as Original Haze, Hindu Kush, Afghani No. 1, and Skunk No. 1 were established in California before their seeds were taken to the Netherlands in the early 1980s. As these cultivars were relatively stable seed varieties, breeders had a greater chance of selecting a favorable male plant as a pollen source for breeding. Cultivars such as Northern Lights, Big Bud, Hash Plant, and G-13 went to the Netherlands from the Pacific Northwest as rooted female cuttings. There were never males of these varieties, and, therefore, commercial seeds were all made by crosses with a male of a different variety such as Skunk No. 1, or more rarely by masculinizing a female cutting to produce pollen for self-pollinating.



Durban Poison When connoisseurs of North American sinsemilla comment that "All the Dutch varieties seem the same," this should come as no surprise, since Dutch varieties share so much of their heritage. Of the nearly 150 varieties offered for sale by Dutch seed companies in 2000, 80 percent of them contain germ plasm that first came to the Netherlands prior to 1985. Most of the seed companies have continued to reshuffle the heavily stacked deck of original North American germ plasm, and since the 1980s few companies have introduced anything new. The perpetuation of monotony has been punctuated, only infrequently, by new introductions from North America or traditional marijuana-producing nations. Most seed companies have simply recombined founding cultivars from which breeders selected star clones to represent their seed companies in competitions. What goes around, comes around! But where would we be today without the common building blocks of our common varieties? Many varieties have been tried throughout the years, and the persistence of the original founding germ plasm to this day is testimony to its desirability. If more potent, better tasting, and more productive varieties had been introduced, growers would certainly favor them today. In fact, seed companies generally introduce a new variety by simply crossing a new introduction with an established Dutch variety, itself built upon the initial founding varieties, and give the resulting plant a new name. As only a handful of North American varieties were used to make "Dutch" sinsemilla varieties, they are usually potent and commercially lucrative, but often boring!



Sensi Seeds Hashplant, grown in Maui jungle. The founding blocks of germ plasm used in most Dutch sinsemilla cultivars are described below by seed company, cultivar name, date of introduction, origin, and genetic heritage.

Among the earliest Dutch varieties were Holland's Hope and Amstel Gold, which were introduced in the early 1980s and are still available today. Although these predominantly indica cultivars are not very potent, they mature much earlier than most varieties, as they were bred to grow outdoors in the Netherlands. Both were bred from selections of imported Afghan hashish landraces. The following eight cultivars were brought to the Netherlands from California as named seed varieties and were released by Cultivator's Choice seed company between 1980 and 1983. They were relatively consistent when inbred or crossed and now make up part of more than two-thirds of the varieties offered by Dutch seed companies. Many of the Cultivator's Choice varieties have been faithfully maintained since their introductions and are presently offered by the Flying Dutchman seed company.

Skunk No. 1 kick started the high-quality Dutch homegrown scene. Even today, nearly half of the varieties sold by Dutch seed companies have Skunk No. 1 in their background. Skunk No. 1 was first introduced in the Netherlands in the late 1970s, and immediately revolutionized Dutch marijuana growing. The Dutch, basically a hashish-smoking culture, attempted to grow marijuana both outdoors and in greenhouses throughout the 1970s. Mostly, their efforts met with little popular success and Nederwiet, literally "low weed," was considered a joke among serious smokers. Skunk No. 1 changed everything. Under Dutch greenhouse conditions, Skunk No. 1 regularly matured and consistently produced high yields of potent buds, even when crops were grown from seed. Skunk No. 1 was originally a three-way hybrid combination between a Colombian/Afghan hybrid and an imported Mexican Acapulco Gold plant. This combination was inbred in California for several generations until the stable combination known as Skunk No. 1 resulted. Although indica makes up a quarter of Skunk No. 1 and contributes to its branchiness

and compact bud structure, Skunk No. 1 is primarily a sweet-smelling sativa hybrid rather than an acrid-smelling indica, so the name 'Skunk' is actually somewhat misleading. Despite its general uniformity, there are several different bud forms in Skunk No. 1, ranging from red, hairy buds with small bracts to large bracts with copious resin glands.

The Original Haze is a late-maturing variety from Central California and was almost always grown in greenhouses, allowing it to finish in December or January. Original Haze was always connoisseur stash, and even in the 1970s it sold for as much as \$200 an ounce. Original Haze is a pure sativa stabilized hybrid arising from crossing all of the best females with a male of a different imported sativa variety each year. Starting with Colombian/ Mexican hybrids grown from seeds from the first crop, a South Indian male plant was used as a pollen source the second year, and a Thai male plant was used the third year. Depending on which year Haze seeds were collected, they resembled either Colombian, South Indian, or Thai plants. Original Haze varies in taste from citrus Thai notes through the gamut of sativa highlights to the deep spicy purple Colombian flavor most common in Dutch Haze cultivars. Although Haze has been available in the Netherlands since the early 1980s, it gained wide popularity only in the mid 1990s. Increasing levels of connoisseurship led to higher prices for exotic and flavorful (but later maturing and more costly to produce) Haze hybrids in preference to the redundant plethora of Dutch Skunk/Northern Lights type buds. Original Haze presently makes up part of about 15 percent of varieties available in the Netherlands, and its frequency is steadily increasing.



Aussie Haze monster? Both Afghani No. 1 and Hindu Kush are pure indica landraces from Afghanistan. Initially selected for dense buds and copious resin, they are true-to-type Afghan primo hashish varieties.

Early California is a very early maturing indica/sativa hybrid introduced in the early 1980s from California. It is relatively true breeding and stable.

? California Orange is another California indica/sativa hybrid well known for its distinctive orange color and flavor.

? Hawaiian Indica is a strongly indica, indica/sativa hybrid that has been used in several Dutch hybrids. Its primary traits are very large bracts and copious resin production.

? Early Girl is a well-known commercial California seed variety from the late 1970s. It is generally leafy and of moderate potency, but consistently matures early. It was included in a number of the early Dutch hybrids. The following five cultivars were brought to the Netherlands from the Pacific Northwest as female cuttings and were introduced by the Sinsemilla Seed Company in the early 1980s. The Sinsemilla Seed Company is now known as the Sensi Seed Bank and continues to offer many hybrids bred from these original North American varieties. As there were no males of these female clones, they were always crossed with another variety in order to make seeds.

? Northern Lights was well established as a Pacific Northwest indoor seed variety by 1978 and arrived in the Netherlands as four sister clones. Northern Lights lines eventually came to incorporate Skunk No. 1 and Haze varieties around 1980. Northern Lights was mostly used as a crossing partner to provide the furry resin look often associated with potent varieties. However, Northern Lights also tends to have very small resin heads, both in comparison to the length of the gland stalks and in relation to other sinsemilla varieties. Northern Lights is found in at least 10 percent of Dutch varieties.

? Big Bud was established in the Pacific Northwest as a commercial indoor clone and was brought to the Netherlands in the mid-1980s. It is predominantly an indicatype indica/sativa hybrid and has very large, if at times leafy, buds.

? Hash Plant is a Lebanese/Thai hybrid. It was originally offered by the Super Sativa Seed Club, but the Sinsemilla Seed Company cutting was brought from North America. It is a very strongly indica hybrid variety.

? G-13 is a clone allegedly spirited away from the U.S. government pot farm in Mississippi. It is also a very strong, nearly pure indica variety.

? Ruderalis seed was collected from weedy roadside plants in Hungary by the Sinsemilla Seed Company and used for breeding in an attempt to develop earlymaturing varieties. Although hybrids with Skunk No. 1 and other North American cultivars began to flower very early, they also expressed their weedy background, never stopped flowering, and matured unevenly.



Aussie Haze monster THE NAME GAME

Tracing the varieties used by the seminal six Dutch seed companies is relatively straightforward. Seed catalogs usually tell the customer what landrace or North American varieties were used to create the seeds, and the founding germ plasm was often shared by several seed companies. With the appearance of more than ten new seed companies during the early 1990s, the situation became more complex. Seed catalogs often changed the names of the varieties used in breeding or omitted the pedigree information altogether. Competition between seed companies heated up, fueled largely by High Times magazine's annual Cannabis Cup. The new companies were associated with some of the original companies and often incorporated the traditional varieties into their own cultivars, while also introducing new varieties that were quickly adopted by rival companies. Several seed companies appeared for only a year or two, and many others began to resell seeds produced by the major companies. It is easy to buy another company's seeds and change the variety name, making it appear to be a new and different variety. Some companies mistakenly sold seeds resulting from crossing two hybrid plants, resulting in great variability, with few, if any, of the offspring resembling either parental combination. The most common and successful way for seed companies to create new varieties was to simply cross a good female plant from an existing variety with a Skunk No. 1 male. In general, the 1990s were characterized more by a reshuffling of the original deck of varieties than by new introductions of landrace or North American varieties.

Unfortunately, some early Dutch breeders made very poor selections from the initial seeds they were given. The most common bad selection was for copious red hairs instead of for large bracts. Red hairs are a sign that female flowers are present, but they are not in themselves psychoactive. A preponderance of red hairs indicates many, but tiny, flowers with little surface area for psychoactive resin glands to develop. Second, selection for dense buds having a good

retail appearance led to the proliferation of nested bracts that feel hard when squeezed, but once again lack sufficient surface area to develop copious resin glands. The third common erroneous selection was for fuzzy-looking resin glands with long sparkly stalks, but small resin heads. All three of these unfavorable traits occasionally reappear in modern Dutch varieties and should be avoided.



Aussie Haze monster Sometimes crosses have been released as new varieties, with a lot of introductory hype about something new and exotic before being tested by growers. When the new crosses are actually grown, they often prove to be substandard. These so-called ?varieties? usually disappear quickly because growers give them bad ratings. Most of the consistently popular cultivars have been around for several years, and many are still available today.

Fortunately, some of the more recent introductions from North America are markedly different from the previously available Dutch varieties. The T. H. Seeds Company, formerly known as the C.I.A. or the K.G.B., introduced several North American varieties in the mid-1990s. The most interesting of these is S.A.G.E., which is a Haze-based variety from the coastal mountains of Big Sur, California. S.A.G.E. stands for ?Sativa Afghanica Genetic Equilibrium,? which is an appropriate explanation of the genetic background of many stabilized indica/sativa hybrids.

Bubblegum is a well-known seed variety from Indiana that came to Amsterdam via New England in the early 1990s. Akorn, Heavy Duty Fruity, Mendocino Madness, and Stinky Pinky are all indica/sativa hybrids introduced as female cuttings.

Most recently, a series of wellknown outdoor cultivars from the Pacific Northwest has been introduced by Dutch Passion and Sagarmatha seed companies. They come from a single breeder and are called Flo, Blueberry, and Blue Velvet.

Brazilian landrace accessions apparently weigh heavily in many of the selections from the K. C. Brains seed company and in White Widow offered by the Greenhouse. The White Widow series may also have come as seeds to the Netherlands from the southeastern United States. Often a seed buyer cannot determine a variety?s heritage because the lineage is concealed or unknown. At harvest time, what matters most is whether the cultivar was appropriate for the grower and growing conditions, rather than simply its supposed heritage or fancy name. Many of these excellent new varieties hold great promise for the future as breeders continue to

fine-tune them for indoor, artificial light growing.  Aussie Haze monster

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