This is the article I have been following until i came here .

Feminized breeding (STS)

Terminology for STS breeding:

STS: Silver thiosulfate, a salt compound used in photography. In plants, silver interferes with, or locks out, copper, which is a necessary micronutrient. Making copper unavilableinteferes with ethylene signaling, and reduces expression of traits that are dependent on high levels of ethylene, such as female sex expression and fruit ripening.

Copper: a micronutrient that is necessary to assist certain enzymes in their function. Copper can become toxic at low levels, but a few parts per billion is adequate for plants to express their genetic potential. Because copper is needed at such low levels, it does not take much silver to overwhelm the available copper load and exert its effect.

Ethylene: One of the 5 plant hormones. The levels and ratios of these 5 hormones has a huge impact on the shape, strucutre, aroma, flavor, flowering time, and disease resistance of the plant. Hormones are the chemical messengers that allow DNA to 'talk' to plant tissues and determine the phenotype. Ethylene is primarily involved in flowering, sex determination, fruit ripening, and sensescence (rot). Ethylene is a simple organic molecule, $C_2 H_4$, which can also be represented as $H_2C{=}CH_2$.
In cannabis, female plants will produce male flowers if not enough ethylene is present, or if too much gibberellic acid is present. The intersex condition is due to a combination of genetic and environemental factors. Some plants will not turn male under the most extreme stress, and some plants, especially stretchy tropical sativas, will turn with no stress at all. It is my belief that the stress of severe inbreeding, compounded over several generations, is responsible for the majority of hermaphrodites in the drug cannabis gene pool (DCG) today.

Reversal: Treating a female plant with STS in order to collect viable female pollen.

Selfing: Applying female pollen to the female from which it was collected. Example : selecting a particular Willie Nelson cutting, reversing it, and putting the pollen back on another clone of the same plant. Applying that pollen to a different Willie cutting, or to another strain altogether, is not selfing.

F0: The parents selected to start a breeding program. Often referred to as P1 and P2, but this is incorrect.

F1: the first cross between two unrelated parents. The F stands for filial, and refers to the fact that all F1 progeny of the same cross are full brothers and sisters to one another.

S1: The first selfed generation. Selfing an S1 produces an S2, etc. Anecdotal evidence from Sam_Skunkman indicates that continued selfing to the S3 and S4 produces plants so weak that they must be handled very carefully, “like kittens” in his words.

R1's (aka Reversed F1's): When feminized pollen is used to pollinate a different female than the pollen donor. R1's will tend to act like a tradional male x female cross, only all female, while S1's appear to have some different properties that are not yet fully understood. Early reports indicatee that S1's are more consistent than R1's on average, but there are many exceptions, and more research is needed.

BC1: The first backcross generation, ie when an F1 or R1 progeny is crossed back to an F0 parent. Backcrossing can increase the influence of either parent, but continued backcrossing is too much inbreeding, according to both DJ Short and Rezdog, and should be used rarely if at all. One or two backcrosses followed by full-sib mating hasbeena successful strategy for many breeders, including the creator of Northern Lights.

These terms can be combined for shortand pedigrees. A second backross, followed by three generations of sib-mating, may be represented as a BC2-F3 generation.

Intersex: A condition in which a plant (or animal) displays functional sex organs of both genders. Easier to type than hermaphroditic. My belief is that almost all hermies are genetic females that have weaknesses in their ethylene signaling pathway, which makes them very susceptible to environmental stress.

Stress: Any environmental factor that causes a response by the plant. Stresses can be biotic or abiotic. Biotic stresses include insects, fungi, viruses, predators, and CAMP. Abiotic stresses include drought, poor soil conditions, extreme wind or humidity, or hurricanes or flooding. Both types of stresses can have large effects on phenotype, including induction of intersex phenos.

Hybrid Fertility: The degree to which any two unrelated plants can set seed. For example, crossing an Afghani to a Turk may produce 95% viable seed, whild crossing Durban to Mongolian Indica might only produce 40% viable seed. This is usually a measure of the genetic distance between the parents. The fertility of self-pollinations is unknown but could give the breeder alot of information about the breeding value of the plant in question. A plant that has a desirable phentoype, but is not very self-fertile, is likely very homozygous and will tend to produce consistent offspring.

Micropropagation: Taking very small clones and rooting them in test tubes containing a heat-sterilized nutrient mixture in a agar (gelatin) base. This allows for aseptic (almost sterile) conditioins and precise application of phytochemicals such as STS, auxin, or cytokinin.

Flower parts:

Male:

Petal: the 5 yellow petals surrounding the generative organs
Anther: the banana-shaped pod on a thin stalk that produces and drops pollen
Filament: the thin stalk that supports the anther.
Pollen grain: A tiny, round, hard shell that floats on the wind until it lands on a female stigma.
Sperm: A half-copy of the genetic information of the father. Each grain contains two sperm. One sperm fertilizes the egg and forms the embryon, while the other sperm fertilizes another cell and forms the endosperm, the fatty, protein-rich substance that surrounds the embryon and provides nutrients for the first ~2 weeks of growth. This process is called 'double fertilization' and is pretty cool if you want to read more about it.

Female:

Sepal: the small green leaves subtending (underneath) the petals. The sepals are the strucutres that have two white hairs protruding and are covered in resinous trichomes. They are a leafy jacket for the developing seed. I believe that the evolutionary purpose of THCis to confuse animals, such as mice and voles, that eat cannabis seeds after they fall to the ground. Differences in cannabinoid content probably are due to differences in the brains of the seed predators.

Stigma: The two white hairs that stick out of each flower. Each stigma is capable of accepting pollen and directing it to the ovary, which is located at the base of the seed. The stigma is capable of performing a chemical analysis of the pollen that lands on it, and can decide whether ornot to allow that pollen to germinate and fertilize the embryo.

Ovary: the structure that contains a half-copy of the maternal DNA, which fuses with a sperm to form an embryo that contains 50% DNA from each parent.

Seeds:

Achene: a technical term for the particular type of seed that Cannabis produces. Similar to a nut, but simpler in structure.

Aleurone: the hard, tiger-striped outer shell of a seed that protects the delicate embryo and endosperm.

Vernalization: Any environmental or chemical treatment that induces seeds to sprout. This can be heat, in the case of wild tomato or avocado seeds, or cold, as in the case of poppies and many members of the cabbage family. Some seeds require a bath in acid, as in tomato seeds, which tend to to sprout well when they are incubated in the hot, acidic bath known as the 'stomach' and then deposited in a matrix of rich organic matter, known as 'poop'.

General Breeding Terms:

Compensatory mating: Choosing hybrid parents based on a weakness in one parent. For example, we often choose G13 as a parent when we have a sativa that is quite nice to smoke, but stretchy and long flowering. G13 brings down flowering time and height, without having much impact on the smell or high, except that it tends to boost potency. Another example might be choosing Grapefruit to cross to an indica that is potent, but lacks flavor or 'bag appeal'. Fem breeding makes it easier to choose parents for compensatory mating as both parents can be evaluated for the trait of interest.

Stabilizing Selection: Growing a large number of aa segregating population and selecting the average phenotypes, culling the extreme phenos, in order to lessen the variability in the line. Usually a later step after a line produces some, but not all, exceptional plants. Not used often enough in Cannabis breeding. An example of this would be growing a thousand Love Potions and culling everything that showed a single male flower, so that the genetics of the line would be essentially unchaged, but interesex plants will eventually be completely eliminated.

Directional Selection: Choosing breeding parents based on a desire to boost a trait that is present in both. For example, if you grew out 100 F2's and selected the most purple ones for future breeding, youwould be breeding in the direction of more purpleness without any regard for other phenotypes. When working with very small populations, I believe it is best to focus on one trait a time, rather than trying to find your grail in a population of 30 or 50 beans.

Diversifying Selection: this is a concept more often used in nature, where one populations splits into two and then diverges due to different selective pressures. For example, early humans mated with chimpanzees for many centuries before the different selective pressures caused the two populations to diverge and become reproductively isolated from one another. For Cannabis breeders, this technique could be used to tease out the parent lines from an F1 hybrid. If you bought Thunderfuck Haze, and you had a good eye for both parental phenos, you could eventually have a truebreedingThunderfuck line and a Haze line that would be more like the parents than like the original F1.

Robustness: A strain that produces similar phenotypes in a wide range of enviroments is said to be robust.

Variability: A measure of the differences in phenotypes within a strain. Some variability is good, for example if you want to harvest over a period of a week or 10 days instead of all at once. Much variablity is bad, for example if your closet has to contain plants that range from 2'-5' tall, or if your harvest window is 2 months instead of 2 weeks and you have other stuff to grow.

Stability: Another way to measure differences in phenotypes. The opposite of Variability.

Diversity: A measure of the genetic diversity within a population. The trick of the breeder is to maximize diversity while minizming variability. Diversity is necessary to allow plants to resist fungi and other pathogens, and to have genetic reserves that will allow theto slowly adapt to a changing climate in the years to come.

Stable Generation: A true F1 made between inbred parents, or a cross between two individuals of the same IBL, will produce seeds that are consistent from plant to plant. F1 plants will grow alike, but will not breed true. IBL's grow alike and will produce offspring that grow alike, both to each other and to the parents. Crossing an IBL to an F1 will produce intermediate results and is a good technique if you have the capacity to evaluate the offspring, or if you are looking for more than one keeper pheno in the progeny.

Segregating Generations: A cros between two hybrids will produce a wide range of phenotypes, especially if the hybrid grandparents are widely unrelated. Segregating generations are where the breeder goes to work, sorting through hundreds of plants to find the ones that meet the goal of the program. Most seeds on the market today are segregating generations.