# *Fertility Herbs Master Manual*

HERBS TO LIGHT YOUR FERTILITY FIRE







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## CONTENTS



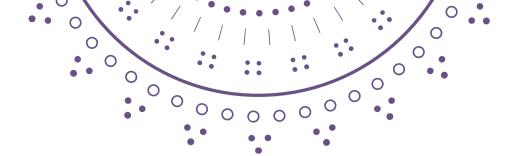




| Ashwaganda   | 1 |
|--------------|---|
| Shatavari    | 2 |
| Damiana      | 3 |
| Ginseng      | 4 |
| Dong Quai    | 5 |
| Milk Thistle | 6 |
|              |   |

| White Peony           | 7  |
|-----------------------|----|
| Tribulus terrestris   | 8  |
| Royal Jelly           | 9  |
| Bee Pollen & Propolis | 10 |
| Vitex                 | 11 |

| Маса                   | 14 |
|------------------------|----|
| DIM (diindolylmethane) | 15 |
| Apple Cider Vinegar    | 16 |
| Black Cohosh           | 17 |
| Horny Goatweed         | 18 |
| Red Raspberry Leaf     | 19 |
| Dandelion Root         | 20 |
| Turmeric and Curcumin  | 21 |
| Cinnamon               | 22 |
| Ginger                 | 23 |



### Ashwaganda

Ashwaganda is an extremely interesting root extract that is used in ayurveda medicine. And there are studies, yay! There are many studies with this herb but the majority of them are in animals. The human studies performed were mostly done in men with a few in women.

Ashwaganda has been shown to help protect the body from stress. It can decrease cortisol levels in people under chronic stress, restore healthy adrenal function, and help regulate parts of the nervous system. It is possibly through its nervous system effects that it is able to help with erectile dysfunction, low libido in men and women, and other areas of sexual dysfunction. One study trial in women found that ashwaganda supplementation helped increase sexual function like arousal, lubrication, and satisfaction. This double blind study did not show an increase in sexual desire for women, however.

Ashwaganda can also help regulate thyroid hormones, which greatly impacts fertility.

There was also an animal study done suggesting that ashwaganda could be used to help detoxify the reproductive organs from lead.

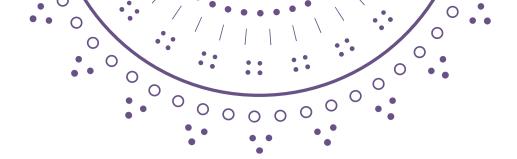
For men, ashwaganda has been shown to improve count and quality of sperm significantly. It was also found to increase quality and nutritional status of semen. This is most likely through its anti-inflammatory and antioxidant effects as well as its ability to help regulate hormones and stress levels.

#### Dose and Type To Take:

Start with 600-650 mg daily, split into 2 or 3 doses. This means a 200-225mg capsule taken 3 times daily or a 300-325 mg capsule taken twice daily.

The dose of ashwaganda varies significantly with the human studies performed having a range of anywhere from 600-1000mg of ashwaganda taken daily. Safe dosages of up to 6,000mg have been found.

You can take ashwaganda in either a root powder or root extract form. You want to make sure that whatever form you take has at least 0.3% withanolides for root powder, and 1.5% withanolides in root extract. The studies used root extract so I would suggest using that.



### Shatavari

Also an herb used in ayurveda medicine, shatavari is also known as wild asparagus. It's translation is "she who possesses 100 husbands" in reference to its use in fertility and pregnancy.

It's been used in hormone and stress regulation as well as an antioxidant. While we don't know its exact mechanism on how it improves female reproductive health., it is currently thought that it helps with hormonal imbalance, PCOS, and egg quality possibly by reducing free radical level and increasing antioxidants level in the body.

Shatavari also contains something called mucilage, which can help with cervical mucus production and health. It is referred to as a "female tonic" because it increases libido, decreases reproductive organ inflammation, and increases mucus production. It is also used during pregnancy to prevent miscarriage and during lactation to help normalize uterus and hormones.

#### Dose and Type To Take:

While this is available in pill, powder, or liquid form, traditional ways of taking it are mostly in the powder form. Taking 1/4 - 1/2 tsp daily of pure ground shatavari powder one or two times daily is the common dosing. This can be taken in a warm milk and honey drink or mixed into smoothies.

### Damiana (turnera diffusa)

This herbal aphrodisiac has been used by herbalists for over 100 years to help stimulate sexual desire and increase libido in men and women. Damiana is a small plant and the medicinal portion used is found in the leaves. Similar to other ayurveda herbs, damiana also helps ease stress and anxiety, calms and restores the nervous system, and helps regulate hormones.

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This herb may be useful in instances where a couple is suffering from the stress and anxiety of having to plan intercourse. When baby making is more of a stressful chore that you dread rather than an enjoyable time with you partner, damiana may be able to help. It can take several weeks of taking damiana before seeing results.

#### Dose:

• Approximately 2000-4000mg, with the maximum dose being 4000mg (or 4grams) per day.

You can take it in either liquid, powder, or capsule form.

Damiana has a glucose lowering effect and should be taken cautiously in those with diabetes. It should also be avoided once pregnant.

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### Ginseng (panax ginseng)

Ginseng is referred to as the "King of all herbs" because of its effects on general well being. There are actually many studies regarding its use in fertility, specifically male fertility. Benefits for male fertility include its ability to increase in sperm count and quality, raise testosterone levels, boost libido, regulate blood glucose levels, and enhance the immune system. There is some great randomized control trial data showing its ability to improve moderate to severe erectile dysfunction through its ability to increase blood flow.

One study in Brazil compared a group of men taking 3,000mg of red ginseng versus a group of men taking a placebo. The placebo group saw no improvement in their erections, while 66% of the red ginseng group reported a significant improvement.

Most studies involving ginseng are to do with men but some studies on female animals have been done. Those studies have shown possible positive effects on anovulation from PCOS, and premature ovarian failure. More studies on humans have been done regarding Dong Quai, which is regarded as the "female ginseng".

#### Type:

There are at least 9 types of ginseng that are primarily named by their location of origin. Asian ginseng is commonly referred to as panax ginseng, and is one of the most commonly used forms. Panax, meaning "all healing", has a diverse range of effects.

There's white panax ginseng and red panax ginseng. White is good for boosting energy and in traditional chinese medicine is considered "warming". However, red ginseng has an even larger warming effect and is great for people who have very low energy or libido. Many studies used both kinds with good results for increasing libido, sperm count and quality, hormonal balance, and more.

American ginseng (panax quinquefolium) has been shown to be effective in helping regulate hormones and is considered a cooling herb. This can be great for men who don't necessarily have a decreased sex drive or low testosterone but may have other hormonal imbalance.

#### Dose:

- Capsules: 500mg 2-3 times per day
- Tincture: 20-30 drops up to 3 times per day, depending on tincture you get

The doses used in studies varied from 100-200 mg per day all the way up to 3,000mg per day so there is a wide dosage range with proven safety.

### Dong Quai (angelica sinensis)

Dong quai is an herb native to China, Japan, and Korea and is also known as "female ginseng". This is a commonly used herb in Chinese medicine and there are a lot of case reports as well as larger studies/trials showing its efficacy in fertility.

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Dong quai is used in ovulatory disorders, endometriosis, PCOS, uterine fibroids, irregular menstrual cycles, as well as many other causes of infertility. Its exact mechanism of action is unknown but it helps to improve follicular development, reduce uterine inflammation, and regulate hormone levels. Some additional effects come from dong quai's ability to increase blood flow to the ovaries and uterus. This can aid in treatment of endometriosis to clear out stagnant blood. Increased blood flow can also aid in increasing the thickness of the uterine lining and even helps decrease painful periods. In fact, one study found that dong quai was more effective than aspirin at reducing pain in some cases.

Men also benefit from the antioxidant ferulic acid found in dong quai, which can help increase sperm quality through its anti inflammatory effects.

Dosing varies widely but tinctures are best absorbed, though you can do capsules if taking tinctures is difficult (it is for me). Find a reputable brand who doesn't use a lot of fillers.

### Milk Thistle (Silymarin)

Milk thistle is a plant that has been show to have powerful antioxidant effects and several medicinal uses. It is native to southern Europe, Asia Minor, North Africa, and parts of Russia but has now been introduced all over North and South America, Australia, China, and central Europe.

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The main active components of this plant are called flavonolignans and are comprised of silychristin, silydianin, silybin, and isosilybin. All of these together are called Silymarin, and are found in Milk Thistle.

Milk thistle increases fertility by undoing harmful effects on sperm and eggs that come from medications and environmental toxins. It does this through its antioxidant, antinflammatory, anti-fibrotic, detoxifying, and regenerative properties- it scavenges free radicals, supports the liver in detoxifying the body and regulating hormones, and helps regenerate damage. One thing it does to help detoxification and anti-inflammation is it increases glutathione in the body (see glutathione in Master Fertility Supplement Manual).

#### Dose:

The therapeutic dose in humans was 420mg specifically of silymarin, which is only a part of milk thistle. You may see supplements advertised as only milk thistle or only silymarin or both on the label. Some may differentiate how much silymarin is in the supplement you're taking and some may not. Buy from a reputable source.

GI upset may occur with tablets or capsules since milk thistle seeds can be hard on the stomach. This is why many experts advocate the use of a milk thistle tincture taken in some water.

### White Peony (paeonia lactiflora)

White peony is an herb most commonly combined with others for best effect. It's used in helping painful periods, uterine fibroids, endometriosis, and PCOS. It has been shown in some animal studies to help increase egg quality and ovarian function in age-related ovarian decline. Most recent animal studies show positive effects in not only increasing endometrial readiness but also improving embryo implantation success.

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One study showed white peony can help in reducing the size of uterine fibroids as well as decreasing the symptoms. Other studies showed improved hormone levels and ovulation in women who previously did not get their periods (amenorrhea).

It can be combined in equal parts to dong quai to help treat anemia and endometriosis pain. It can also be combined in equal parts to licorice root to relax smooth muscles and relieve severe period pain.

#### Dose:

Doses vary extremely widely between products, uses, and studies. Buy a reputable product, either alone or combined with other herbs, and use as directed.

### Tribulus terrestris

This is an annual plant used for centuries to energize and improve sexual performance in men. It has other proven pharmacological effects and is even used in prevention and treatment of cardiovascular disease and diabetes. Its made of bioactive phytochemical that have liver protective, antioxidant, anti-inflammatory, antibacterial, antiaging, and antitumour activities.

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There are a multitude of studies done over a variety of different ailments using this plant as medicine.

For men, both animal and human studies show it can:

- improve erectile dysfunction
- increase testosterone
- increase sperm count and motility
- increases libido

For women:

- may be useful in management of PCOS
- promotes normal ovulation
- increases libido

One important use for this plant is with couples experiencing problems with immunity related fertility issues like antiserum antibodies. One Bulgarian study used tribulus terrestris in couples that tested positive for antiserum antibodies with the results showing a 61% increase in conception after use. The men in the study took 250mg tribulus 3 times per day while the women took 250mg tribulus 3 times per day for 7 days in the beginning of her cycle.

#### Dose:

• 500 mg per day (split into two doses) to begin with, and can then increase dosage as needed up to 1500mg per day (split into 3 doses).

Tribulus can effect the efficacy of diuretics, blood pressure medications, and blood thinning medications so consult your physician or an herbalist. It can also lower blood glucose so use with caution with diabetes.

### Royal jelly

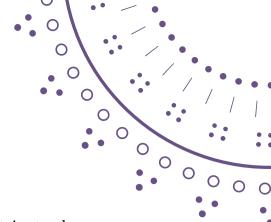
Known for its huge nutritional benefit, royal jelly is what bees feed to the queen bee so she can lay thousands of eggs per day and live for years. Bees usually only live for a couple of months, so its the unique make up of royal jelly that keeps her alive for so long. This is also what is fed to new larvae for the first days of life after they hatch.

Royal jelly has huge immune boosting function and anti-inflammatory properties. It's chuck full of vitamins, minerals, amino acids, and has a unique combination of proteins and lipids. I have had many women find success in adding this to their routine and the small body of evidence that does exist seems to be pointing towards it being highly effective. I've also noticed more and more studies are coming out involving royal jelly so I'm expecting it to gain more clout.

#### Dose:

- Taken as a capsule: 500mg taken 3 times per day (total 1500mg per day)
- Taken in raw form: 1/2 tsp twice daily. Great for adding to smoothies

\*\*Do not take if you have an allergy to bees as it can cause a severe reaction\*\*



### Bee Pollen & Bee Propolis

Similar to royal jelly, these 2 superfoods are extremely high in nutrient value.

Propolis is the glue bees use to repair the hive and keep the internal temperature warm. Bee pollen has a good amount of protein.

These both have huge antiseptic, anti-inflammatory, antioxidant, antibacterial, antifungal, antiulcer, anticancer, and immunomodulatory properties. They're usually sold together in raw honey or in capsule form. You can take capsules by mouth or break them open and add to smoothies, or you can take these in the raw honey form.

• An interesting study regarding bee propolis used in women with endometriosis showed a significant increase in pregnancy rate. Women with endometriosis related fertility issues who took 500mg of bee propolis twice per day for 9 months had a 60% pregnancy rate compared to only 20% in the group of women not taking it.

#### Dose:

• 500mg twice per day (total of 1000mg per day)

\*\*Do not take if you have an allergy to bees as it can cause a severe reaction\*\*

### Vitex (agnus castus, chasteberry)

Vitex is hailed as a glorified fertility problem fixer-upper, but there's a lot people don't know about this herb. It is helpful for some, but can actually hurt others.

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Vitex has been shown to:

- Increase dopamine receptor binding
- Decrease prolactin this is done because of the increase of dopamine use
- Lengthen a short luteal phase
- Increase progesterone
- Relieve symptoms of PMS and PMDD
- Regulate periods this includes helping with heavy periods, irregularly timed periods, or totally absent periods
- Uterine cysts
- Resumption of ovulation after stopping birth control

Given all of these things listed you might be tempted to think it helps everyone who takes it but that's not true. It's really important to understand the *mechanism* of how vitex works before deciding if it will be right for you.

Vitex only directly works to increase dopamine binding to receptors in the brain. It doesn't increase overall amount of dopamine, but rather it increases the amount that is used.

You may know dopamine as your "feel good hormone". Taking vitex increases your dopamine use, which then tells your brain to slow down its production of prolactin. Prolactin is important in regulating how much hormone is released that helps your body mature eggs and ovulate properly.

High prolactin levels can be responsible for a lot of hormonal, menstrual, and ovulatory irregularities. Prolactin can be high for dozens of reasons including medications, liver disease, pituitary tumor, hypothyroid disease, PCOS, and many more.

\*\*A high prolactin level can both be the cause of hormonal problems and caused by hormonal problems.

Many women want to lower prolactin so they can increase ovulation, progesterone, and lengthen their luteal phase. They take vitex thinking it will do all of these things but vitex will *only* work if the reason for these problems is a <u>high prolactin level caused by a low</u> <u>dopamine</u>.

I'll say it again:

Taking vitex in order to lower your prolactin levels, increase progesterone, lengthen your luteal phase, etc, will only work if the reason for your high prolactin level is a low dopamine level.

For instance, if you have PCOS and irregular periods you might still have a normal prolactin level. Or your prolactin level might be high. But vitex will only help your PCOS if a critical component to your symptoms stems from a low dopamine issue.

How do you know if your prolactin is high because of low dopamine?

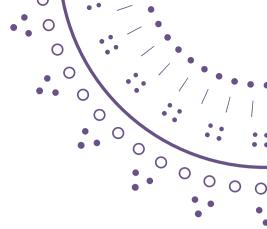
You get blood drawn to test your prolactin level and if it's high then you look at symptoms of low dopamine. Feelings of depression, fatigue, reduced sex drive, inability to focus, feeling guilt-ridden, feeling anxious, feeling demotivated may be a sign that you have some low dopamine issues.

If you've ruled in high prolactin and think the cause is low dopamine then vitex might be useful to you. If you have high prolactin and are unsure about your dopamine, you can try vitex with an understanding that it may or may not work.

If you have irregular periods for an unknown reason and you haven't looked at your diet and supplement foundation then that is your first step.

If you have regular length cycles with early or regular ovulation, then you should probably avoid vitex and concentrate on your diet and other supplements.

Vitex is a double-edged sword. Taking it can help your body regulate and feel fantastic as I've seen with many women. It can also wreak havoc on your entire system and make you feel worse (this happened to me and many women I speak with). This is why it's important to take this herb when it's appropriate.



#### Dose:

Use a tincture for this and start at 60 drops per day. Take for 3–6 months to measure if it works for you. Increase to 90 drops after 3 months if you're not having desired effect.

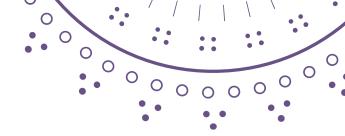
Take it in the mornings.

**With regular periods:** give yourself a break from it on days 1-5 of your cycle then take it daily until day 1 of your next period. **For irregular cycles:** take it for 25 days then give yourself 5 days off.

After 6 months it is best to give your body a month or two break from it unless you're using it for PMS or PMDD period pain control.

Do not take if you're on fertility drugs, and use caution if you have PCOS. With PCOS it is best to look at your diet first and foremost since it is a syndrome that can be cured of all symptoms based on diet and lifestyle alone.

### Maca



You've probably heard a lot about maca especially in the fertility world. It's a Peruvian root similar to a turnip and grows in harsh conditions high up in the mountains. It is usually dried and then made into a powder.

It's hailed as a fertility superfood because it's known to increase sexual drive and desire, has been shown to increase sperm quantity and quality in men, helps to balance estrogen/ progesterone, and has a high amount of nutrients that boost overall health.

In fact the biggest thing to note with maca is the extremely high nutritional profile. It contains large amounts of zinc, magnesium, vitamin B6, manganese, vitamin C, iron, and more.

Maca is only helpful in circumstances where you are consuming a healthy diet already. Remember, you can't override a bad diet with supplements!

You can consider using maca if you have a short luteal phase, spotting in your luteal phase, mood swings throughout your menstrual cycle, or are experiencing secondary infertility.

#### Type:

There is powder, capsules, and tinctures available for maca. I prefer the powder or capsules and have used both myself and had many of my women take them as well.

Powder comes in two forms: plan/raw or gelatinized powder. Gelatinized is easier to digest (which does not actually contain gelatin and is free of animal products) and is the preferred type if you can find it.

Combine your maca powder (or tincture) in smoothies, juice, or other drink. It has a nutty flavor that I found easiest to get down in a smoothie. Take your maca in the morning and not in the afternoon or evening since it gives a burst of energy.

#### Dose:

• 500-3000mg per day. Start low and go up slowly over many weeks if you're seeing benefit.

You should <u>not</u> use maca if you have pcos, endometriosis, or any other androgen-dominant hormonal challenge. Also, avoid maca if you have any kind of thyroid dysfunction.

### DIM (diindolylmethane)

DIM is a phytonutrient found in cruciferous vegetables like broccoli, cauliflower, cabbage, brussels sprouts, kale, and rutabaga. There is not a lot of clinical trial data regarding DIM but there is pre trial information regarding its use in estrogen dominant conditions like PCOS and endometriosis.

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DIM balances hormones and regulates estrogen levels by helping the body break down excess amount of estrogen. There are "good" estrogens and "bad" estrogens – DIM aids in the balance – helping the body eliminate excess estrogen while leaving the proper balance between the good and bad estrogen types.

DIM can also help men who are having estrogen dominance issues and hormonal irregularity.

Adding supplemental DIM can be useful even in a healthy diet that includes daily cruciferous vegetables. Especially since it takes 1.5 pounds of cruciferous veggies to get just 10-30 mg of DIM!

#### Dose:

• Therapeutic doses range between 100-200mg per day of DIM.

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### **Apple Cider Vinegar (ACV)**

Vinegar (ACV)

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Apple cider vinegar is made from fermenting fresh apple cider and contains a variety of nutrients. It has a lot of health benefits for the body.

#### ACV:

- regulates pH
- regulates blood glucose levels
- repopulates healthy gut flora
- boosts immune system

...as well as many other benefits.

This can be a valuable addition to a healthy diet. You can increase its use in cooking or you can add it to a glass of water and swig it down. OR you can be brave and take a straight shot of it (but holy moly that is tough to do).

Add anywhere from 1 tsp to 2 tablespoons of ACV to a glass of water daily. Add small amounts to dishes while you're cooking – for instance, it makes a great addition to chili, bone broth, and salad dressing.

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### Black Cohosh (Actaea racemosa or Cimicifuga racemosa)

Black cohosh is a member of the buttercup family and has been used for centuries to aid in fertility.

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Specifically black cohosh:

- can stimulate natural ovulation one study even found that using black cohosh was an effective natural remedy to clomid, a prescription drug commonly used to stimulate ovulation.
- regulates insulin levels, lowers blood sugar, and increases the body's sensitivity to insulin this is useful in PCOS and other conditions with insulin resistance
- thickens the endometrium
- helps manage symptoms of menopause (hot flashes, irritability, insomnia, headaches, night sweats)

If you have PCOS or ovulatory problems black cohosh may help regulate hormones, decrease symptoms of PCOS, increase your body's insulin sensitivity, and stimulate ovulation. Studies using black cohosh had more achieved pregnancy than control group women.

#### Dose:

Dosing varies widely from 40mg per day up to several thousand mg. Buy a reputable product and start at a lower dose. A tincture is best and can be mixed with water or juice.

Black cohosh is not meant for long term use and should be discontinued after 6 months

### Horny Goatweed (epimedium grandiflorum, or Chinese yin yang huo)

This is a powerful aphrodisiac used to increase sexual desire, improve erectile dysfunction, and increase sperm count and quality. It received its name after farmers noticed an increase in sexual activity in their goat herds after they would graze on epimedium, of which there are 54 different species. Epimedium grandiflorum happens to be the most common type of epimedium you'll see, but there are other types you may see on a label or even in some research.

There are some interesting animal trials conducted using epimedium varieties. An antioxidant called icariin in epimedium reduces free radicals and has been found to improve erectile dysfunction in male rats. One trial found that epimedium in combination with other herbal therapies helped restore sperm count, motility, and normal sperm function in male rats with infertility.

#### Dose:

Again, the dosing here varies greatly with what you're trying to achieve. As with everything else, follow the instructions for use on a high quality product.

### Red Raspberry leaf (rubus idaeus)

Red raspberry leaf is one of the most common herbal supplements I get asked about, surprisingly. I know there are a lot of anecdotal stories out there about the power of this herb, but I caution using this before addressing your entire diet and supplement regimen.

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Red raspberry leaf is hailed in herbal medicine and midwifery as a useful uterine tonic, meaning that it helps strengthen and tone the uterus. The belief is that it readies the uterus by strengthening it resulting in shorter labor times.

There was actually a randomized, double-blind placebo controlled trial done using red raspberry leaf. The results showed that the women who took red raspberry leaf had shorter stage 2 labor by only around 9–10 minutes and they had a significant decrease in forceps deliveries. However there was no difference between birth outcomes leading the trial to conclude there was no statically significant effect of red raspberry leaf on labor duration or birth outcome. There were no adverse effects taking red raspberry leaf during pregnancy, and is one of the safest herbs to take.

There is speculation that red raspberry leaf increases fertility in both men and women, but this is based more on anecdotal evidence and is not demonstrated in any trial or study. There are a lot of nutrients in red raspberry leaf and so anything that increases nutrients in the body serves fertility well.

If you enjoy red raspberry leaf tea and already take it then you can continue. If you're just establishing your supplement regimen then I would not add this in before addressing other important supplements.

#### Dose:

This is best taken as a tea or infusion. Buy a quality product and prepare as directed. Can take once or several times per day.

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### **Dandelion Root (taraxacum)**

Contrary to popular belief, dandelion is not a weed! It is actually an entirely edible plant that has powerful antioxidant and anti-inflammatory properties and is massively nutritious.

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Are you kicking yourself for killing them all the time, always, for decades? Yeah, I was too when I learned about the power of dandelion.

Dandelion actually has a better nutrition profile than lettuces! It is high in protein, amino acids, fiber, vitamins, minerals, and is one of the richest green-vegetable sources of beta-carotene.

There have actually been numerous animal studies showing the antioxidant and antiinflammatory effects of dandelion. Now that evidence-based data is being discovered as to the healing properties of dandelion, it only supports what herbalists have known for countless years: dandelion is a powerful, and highly nutritive, antioxidant that can be used to help detoxify the body and return vibrancy.

Studies show it helps the liver detox, which helps your body get rid of excess hormones, toxins, or endocrine-disrupting chemicals. There may also be an effect of balancing blood sugar levels.

#### Dose:

There are dandelion greens and dandelion root.

You can buy dandelion greens and add them to a salad. You can also quickly blanch them, then sauté with olive oil and garlic. Ideally you should eat a couple times per week to increase your nutrient-dense intake. These greens can be bitter at first but sautéing them helps to decrease the bitterness, though I kind of like the texture and variety it adds to salads.

You can also buy ground root in capsule form. There is also dandelion tea you can either purchase or make yourself.

Dandelion greens should be part of your normal diet and if you have high toxic load then grabbing yourself a high quality dandelion root capsule can be beneficial.

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### **Turmeric (and curcumin)**

This is a powerful anti-inflammatory that you should absolutely add to your cooking at the very minimum. Polyphenol curcumin is the most active ingredient and it decreases inflammation while also suppressing pain possibly felt from joint swelling or arthritis. In fact, polyphenol curcumin can block COX-2, which is the target for your common non-steroidal anti-inflammatory (NSAID) medications like ibuprofen (Motrin).

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Turmeric hunts down free radicals and protects your eggs and sperm from DNA oxidation or damage. There are studies showing its anti-inflammatory effects in arthritis, GI disease, depression, weight loss, diabetes, and even cardiovascular issues and Alzheimer's disease. It's a very impressive antioxidant!

Curcumin is the most active ingredient in turmeric, and some people want to take it separately. I recommend getting your diet and supplement regimen dialed in and use turmeric while cooking instead. Getting some extra turmeric in drinks, teas, and smoothies is a great way to add some more in your daily diet.

#### Dose:

Dose can vary from 400mg to over 5000mg per day, but it depends on how you take it and what product you get. You can get yourself a capsule to take once or twice daily while also increasing the amount of turmeric added to your daily diet.

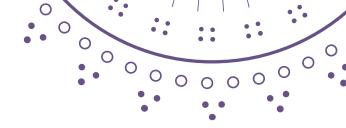
In terms of cooking with it, adding 1 tsp 1-2 times per day to your cooking is good.

Turmeric is not well absorbed alone so it's best to take it with food.

#### **Caution**:

Be wary of using high doses if you're on blood thinners, diabetes medications, or have a history of gall stones or kidney stones.

### Cinnamon



Cinnamon is a powerful spice that helps with insulin resistance in PCOS, and heavy period bleeding including excessive bleeding from fibroids or endometriosis.

It has been shown in randomized trials of people with type 2 diabetes that the use of cinnamon extract decreased glucose levels significantly. Similarly, randomized trials involving cinnamon supplementation showed a significant decrease in insulin resistance in women with PCOS.

Cinnamon also has powerful antioxidant effects and was found to help decrease pain in a trial using cinnamon supplementation in women with rheumatoid arthritis. Not only did these women report decreased pain and joint swelling, they also showed decreased inflammatory blood markers.

#### Type:

There are different types of cinnamon – cassia cinnamon, which is the most common type, and ceylon cinnamon. Ceylon cinnamon is generally a little more expensive, but is the preferred type of cinnamon because of the amount of coumarin. Coumarin can be toxic in large doses and is much higher in cassia cinnamon. Find a reputable brand of ceylon cinnamon for supplementation, and to cook with.

#### Dose:

Dose is approximately 3 grams per day (3000 mg), which is equal to about 1 tsp of cinnamon. If using capsules, check the dose and instructions. They are generally 800-1500mg per capsule and say take 2-3, but this will vary on product.

### Ginger



Ginger has active phenolic compounds that have strong androgenic and antioxidant effects. This spice has actually been studied quite extensively in animal studies, and there are human studies as well. Ginger has been shown to improve semen quality through increasing count, viability, motility, morphology, and DNA integrity.

For women, there have been some promising trials done in animal models – ginger supplementation showed increased follicle count and increased rate of implantation.

It is also used generally for its powerful antioxidant effects.

#### Dose:

Capsules of 400mg - 1000mg per day, split into two doses.

If using ginger root powder, it's about 1000mg per 1/2 tsp depending on the product you buy.

Making a detox drink with powdered ginger is a great way to get it in, along with adding more while cooking or baking.