

## HOW TO ESTIMATE WHICH DAY IS THE TRUE NEW MOON

Estimating the observable New Moon crescent from Jerusalem  
for each month using the best available Astronomical Data  
from the U.S. Naval Observatory and H.M. Nautical Office.

- 1). Get the New Moon conjunctions for years 2018-2019 (Spring To Spring) in G.M.T. (Greenwich Mean Time) or Universal Time.
- 2). Two hours must be added to bring the conjunction to Jerusalem Time.
- 3). Another twenty four hours must be added, because according to the U.S. Naval Observatory, the first visible crescent of the New Moon cannot be seen for about 24 hours after the conjunction, but sometimes slightly less or slightly more. There are visibility graphs available and also computer software called "LUNACAL", which can help in determining whether or not a "*Possibility of Sighting*" or "*Potential Visibility*" exists on a given night from a given place (Jerusalem). However it is not simply the amount of time which has passed since the conjunction, but other technical factors such as "*Declination*", "*Lagtime*", "*Altitude*" and "*Azimuth*", MUST be taken into account.

N.B. Even if 24+ hours have passed since the conjunction, a high Southerly Declination could well mean that the New Moon would NOT be visible from Jerusalem until the following evening. This is why we must use the best available data from both the U.S. Naval Observatory and H.M. Nautical Office.

Declination:- The angular distance of the Moon either North or South of the Equator.

Lagtime:- The span of time between Sunset and Moonset.

Altitude:- The height of the Moon above the visible horizon.

Azimuth:- The angular distance of the Moon from True North.

- 4). The New Moon crescent is usually visible just above the Western Horizon during Dusk (Between Sunset and Total Darkness) and VERY RARELY a few minutes before Sunset. In either case the "*New Moon*" is declared the day just beginning.

5). In Temple Times, according to Alfred Edersheim, "*It was ruled that a year should neither have less than FOUR nor more than EIGHT Full Months of Thirty Days*". (A Lunar Month can only have either 29 or 30 Days.)

- 6). A Year should neither have less than TWELVE Months nor more than THIRTEEN Months.

7). On certain occasions, a New Moon may be declared without a sighting, if for instance the skies over Jerusalem and the Land of Israel happen to be overcast. This would happen in the case of “*Potential Visibility*”, where there was no doubt that the New Moon crescent would be visible given clear skies. On other occasions however, a “*Borderline*” case could exist, where it cannot be absolutely certain that the New Moon crescent will be seen on a given evening.

NOTE:- As we grow in grace and knowledge, this material may need refining in the future, but we are doing the very best we know how, to get back to “*The Faith Once Delivered To The Saints*”.

Interestingly, in some years if both NISAN and IYAR have 29 days, then PENTECOST will be on SIVAN 7. Alternatively, in some years both NISAN and IYAR may have 30 days, in which case PENTECOST will be on SIVAN 5. Although these scenarios for PENTECOST can happen occasionally, the most common occurrence for PENTECOST is to be on SIVAN 6.

Unger’s Bible Dictionary under the article heading “*Festivals*” – sub-heading “*Pentecost*” states:- “...*the Jews, who during the SECOND TEMPLE kept Pentecost fifty days after the 16<sup>th</sup> Nisan, rightly interpreted the injunction in Lev. 23:15-22. The fiftieth day, according to the Jewish canons, may fall on the 5<sup>th</sup>, 6<sup>th</sup> or 7<sup>th</sup> of Sivan...*”

The month of NISAN or ABIB is declared according to the state of the barley crop in the fields around Jerusalem. If the barley is not in an ABIB condition then the month should be ADAR II. There can be little doubt that this is the primary determining factor regarding the declaration of the “*New Moon of Abib*”. If the barley is not ready then obviously no “*Wave Sheaf Offering*” would be possible, and a thirteenth month would be inserted.

There is however another important factor to be considered, and this is that the Holy Days must be kept in their correct seasons. According to Josephus in “*Antiquities of The Jews – Book 3 – Chapter 10 – Section 5*” we read;

“.....*In the month of Xanthicus, which is by us called Nisan, and is the beginning of our year, on the fourteenth day of the lunar month, when THE SUN IS IN ARIES, (for in this month it was that we were delivered from bondage under the Egyptians), the law ordained that we should every year slay that sacrifice which I before told you we slew when we came out of Egypt, and which was called the PASSOVER.....*”

Note that the Sun is in ARIES from 21<sup>st</sup> March through to 20<sup>th</sup> April and for the Passover to be in the Springtime, it must fall either on or after the Spring Equinox. If the Passover fell earlier than this it would still technically be in the winter, but it would also pull the Autumn/Fall Holy Days out of their season and into the Summer. Conversely if the Passover fell more than 30 days after the Spring Equinox, this would also push back the Autumn/Fall Holy Days further away from the Autumnal Equinox.

An interesting point to note is that the “*Fixed*” Jewish calendar sometimes declares a New Moon day beginning, EVEN BEFORE the time of conjunction. This is obviously a

nonsensical notion, and another simple proof of the errors and inaccuracies of the “Fixed” mathematical Jewish calendar. In actual fact the “Fixed” Jewish calendar cannot be used in its present form indefinitely. The further into the future the “Fixed” calendar is projected, the Passover moves slowly but inexorably further away from the Spring Equinox and towards the Summer Solstice. Given a few thousand more years, Passover would move through the Summer and towards the Autumn Equinox, while Tabernacles would move through the Winter towards the Spring Equinox. This is not supposition, but an irrefutable fact of the “Fixed” mathematical Jewish calendar.

An easy way to keep track of the TRUE calendar throughout the year, is to mark the Hebrew days onto our standard Roman Calendar. In other words when we know that the New Moon of a particular month has been declared then we can mark off 29 days in succession, because we know that a lunar month has either 29 or 30 days. This should bring us up to the 29<sup>th</sup> day. All we now need to do is wait and see if the New Moon crescent is sighted in Jerusalem that evening, in which case the following day will be marked as New Moon Day of the next Month. If the New Moon crescent is not sighted in Jerusalem that evening, then the following day will be the 30<sup>th</sup> day and then the day after that will be marked as New Moon Day. As we can see there is sometimes an element of uncertainty over the exact appearing of a New Moon, which should help to train us all to WATCH very carefully and STAY ALERT.

God’s TRUE calendar is so simple a child can understand it. No need for esoteric and complicated mathematical formulae which only the “initiated” can understand fully.

*“This month (ABIB) shall be your beginning of months, it shall be the first month of the year to you.” Exodus 12:2.*

*“Remember this day in which you went out of Egypt, out of the house of bondage; for by strength of hand the LORD brought you out of this place. No leavened bread shall be eaten. On this day you are going out, in the month ABIB.” Exodus 13:3-4.*

*“Observe the month (Hebrew CHODESH - NEW MOON) of ABIB, and keep the Passover to the LORD your God, for in the month of ABIB the LORD your God brought you out of Egypt by night.” Exodus 16:1.*

*“These are the FEASTS of the LORD, holy convocations which you shall proclaim at their APPOINTED TIMES (i.e. IN THEIR CORRECT SEASONS).” Leviticus 23:4.*

**VISIBILITY PREDICTIONS FOR THE NEW CRESCENT MOON AT JERUSALEM**  
**THE DATA IS FROM HER MAJESTY'S NAUTICAL ALMANAC OFFICE**

**2018-2019**

MONTH	JEWISH	CRESCENT VISIBILITY	POTENTIAL
March	Aviv	Eve Sunday 18 <sup>th</sup> March	Certain A
April	Iyar	Eve Tuesday 17 <sup>th</sup> April	Certain A
May	Sivan	Eve Wednesday 16 <sup>th</sup> May	Certain A
June	Tammuz	Eve Thursday 14 <sup>th</sup> June	<b>Borderline C</b>
		Eve Friday 15 <sup>th</sup> June	Certain A
July	Av	Eve Sabbath 14 <sup>th</sup> July	Certain A
August	Elul	Eve Sunday 12 <sup>th</sup> August	Certain A
September	Tishri	Eve Monday 10 <sup>th</sup> Sept	<b>Borderline B</b>
		Eve Tuesday 11 <sup>th</sup> Sept	Certain A
October	Chesvan	Eve Wednesday 10 <sup>th</sup> Oct	Certain A
November	Kislev	Eve Thursday 8 <sup>th</sup> November	<b>Borderline B</b>
December	Tevet	Eve Sabbath 8 <sup>th</sup> December	Certain A
January	Shevat	Eve Monday 7 <sup>th</sup> January	Certain A
February	Adar	Eve Wedn'sday 6 <sup>th</sup> February	Certain A
March 2019	Adar 2 OR Aviv	Eve Thursday 7 <sup>th</sup> March	<b>Borderline B</b>
April 2019	Aviv OR Iyar	Eve Sabbath 6 <sup>th</sup> April	Certain A

A = Easily Visible

B = Visible Under Perfect Atmospheric Conditions

C = May Need Optical Aid To Find Crescent Moon

## 2018 Spring Festivals

### NEW MOON CERTAIN.

#### LUNACAL Forecast:-

The New Moon first appears on Sunday 18th March 2018 between 17:52 and 18:47 provided that it is not cloudy. It is **NOT DIFFICULT** to see, ease of visibility 0.8. Probability of visibility, 79% of testimony 95%.

GVM (Global Visibility Map) shows crescent easily visible as far East as Iraq and Iran.

AVIV New Moon - Eve Sunday 18<sup>th</sup> March

Nisan 1 – Monday 19<sup>th</sup> March

Nisan 14 – Passover Seder – Sunday Evening 1<sup>st</sup> April

Nisan 15 – 1<sup>st</sup> Day Unleavened Bread – Monday 2<sup>nd</sup> April

Nisan 16 – Omer Count Begins – Tuesday 3<sup>rd</sup> April

Nisan 21 – 7<sup>th</sup> Day Unleavened Bread – Sunday 8<sup>th</sup> April

Pentecost – Shavuot – Tuesday 22<sup>nd</sup> May

## 2018 Autumn Festivals

### NEW MOON BORDERLINE.

#### LUNACAL Forecast:-

The New Moon first appears on Monday 10th September 2018 between 18:59 and 19:37 provided that it is not cloudy. It is **VERY DIFFICULT** to see, ease of visibility 0.3. Probability of visibility, 31% of testimony 65%.

GVM (Global Visibility Map) shows crescent visible from Israel only under perfect atmospheric conditions.

### NEW MOON CERTAIN.

#### LUNACAL Forecast:-

The New Moon first appears on Tuesday 11th September 2018 between 12:09 and 19:01 and fades between 19:39 and 20:16 provided that it is not cloudy. It is **VERY EASY** to see, ease of visibility 1.5. Probability of visibility, 99.6% of testimony 99.98%.

GVM (Global Visibility Map) shows crescent easily visible around the world.

TISHRI New Moon - Eve Monday 10 <sup>th</sup> September	TISHRI New Moon – Eve Tuesday 11 <sup>th</sup> September
Tishri 1 – Trumpets – Tuesday 11 <sup>th</sup> September	Tishri 1 – Trumpets – Wednesday 12 <sup>th</sup> September
Tishri 10 – Atonement – Thursday 20 <sup>th</sup> September	Tishri 10 – Atonement – Friday 21 <sup>st</sup> September
Tishri 15 – 1 <sup>st</sup> Day Tabernacles – Tuesday 25 <sup>th</sup> September	Tishri 15 – 1 <sup>st</sup> Day Tabernacles Wednesday 26 <sup>th</sup> September
Tishri 22 – Shemeni Atzeret – Tuesday 2 <sup>nd</sup> October	Tishri 22 – Shemeni Atzeret – Wednesday 3 <sup>rd</sup> October

### **2018 FIXED Jewish Calendar Significant & Holy Days**

Nisan 1 – New Moon Day – Sabbath 17 <sup>th</sup> March
Nisan 14 – Passover Seder – Friday 30 <sup>th</sup> March
Nisan 15 – 1 <sup>st</sup> Day Unleavened Bread – Sabbath 31 <sup>st</sup> March
Nisan 21 – 7 <sup>th</sup> Day Unleavened Bread – Friday 6 <sup>th</sup> April
Pentecost – Shavuot – Sunday 20 <sup>th</sup> May
Tishri 1 – Trumpets – Monday 10 <sup>th</sup> September
Tishri 10 – Atonement – Wednesday 19 <sup>th</sup> September
Tishri 15 – 1 <sup>st</sup> Day Tabernacles – Monday 24 <sup>th</sup> September
Tishri 22 – 8 <sup>th</sup> Day – Monday 1 <sup>st</sup> October